DISSERTATION

ATTITUDES OF COUNSELING STUDENTS' USE OF WEB-BASED INSTRUCTION FOR ONLINE AND SUPPLEMENTAL INSTRUCTION IN A MASTER'S DEGREE PROGRAM OF STUDY.

Submitted by

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WE HERBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY MARK G. MANZANARES ENTITLED ATTITUDES OF COUNSELING STUDENTS' USE OF WEB-BASED INSTRUCTION (WEBCT) FOR ONLINE AND SUPPLEMENTAL INSTRUCTION IN A MASTER DEGREE PROGRAM OF STUDY BE ACCEPTED AS FULFILLMENT IN PART REQUIREMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

ATTITUDES OF COUNSELING STUDENTS' USE OF WEB-BASED INSTRUCTION FOR ONLINE AND SUPPLEMENTAL INSTRUCTION IN A MASTER'S DEGREE PROGRAM OF STUDY.

As counselor education programs increase the amount of hours for graduation to remain competitive in the job market, they must find additional means for delivering course content. Budget constraints are also a factor in delivering graduate programs at off-campus sites. The use of web-based instruction (WBI) is becoming a new medium for course delivery replacing or supplementing traditional face-to-face instruction in counselor education programs. The purpose of this study was to explore the factors that affect the attitudes of masters-level counseling students using web-based instruction for taking online courses as well as face-to-face courses using online supplemental instruction. The variables include student learning style, age, gender, ethnicity, major, and year in program.

The sample used for this study consisted of 158 counselor education students enrolled in a small, rural, Southwestern state college. The students were enrolled in the counselor education program at four different sites and in ten different cohorts. Using the Web-Based Instruction Attitude Scale, students' general attitudes toward WBI were assessed. Additionally, the Gregorc Style Delineator was administered to participants to assess learning style preference.

Using Chi Square Goodness of Fit, the researcher determined whether there was a dominant learning style among counseling students. Results showed a significant difference between Abstract Sequential, which was the lowest frequency, and all other learning styles. All other variables were tested to determine whether there was a significant effect on student attitudes. Year in program was the only variable that showed significant difference. First-year students' attitudes were lower than second- or third-year students. Finally, two-way ANOVAs were computed to determine any interactions among variables on student attitudes. Three interactions were discovered: gender and hours worked; gender and ethnicity; and gender and year in program. Extreme caution was exercised with the gender and hours worked interaction due to small cell numbers.

As a result of this study, it appears that program faculty is meeting the needs of counseling students in all areas except year in program. This suggests that WBI training and easing students into the use of these technologies in the first semester would be useful.

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DEDICATION

To my wife Myra, who has been there with me throughout this journey. You are my reality helping me to be grounded and encouraging me never to give up. I love you. To my Marissa Rose, you have been patient six out of the short eight years of your life and for this I appreciate you. We will now play. Finally, to my little Lauren (Bunkie), you came in with a whirlwind causing a stir, but I wouldn't have it any other way.

I also dedicate this to my father Tino and my mother Laura who taught me that obstacles are only challenges that can be overcome with persistence and perseverance.

Finally to the memory of my mother Amelia, my guardian angel, you truly are here for me, you would have been proud (11:11).

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Chapter One

Introduction

Background

The World Wide Web has had a major impact on distance learning by offering a new medium for course delivery outside the traditional classroom. According to the National Center for Educational Statistics (2001), 52% of four-year higher education undergraduate and graduate institutions offer distance education. Of that 52% of institutions, 90% offer asynchronous web-based instruction (WBI) as a primary means of course delivery. Asynchronous web-based instruction involves having student-teacher interaction without having to be confined to specific time or place. Asynchronous communication allows for an individual the ability to communicate with others without having to be on the computer at the same time. Asynchronous WBI is flexible. Students who find it hard to meet traditional on-campus learning modalities because of distance, work, and family needs can use WBI instead (Daniels, Tyler, & Christie, 2000).

Historically, counselor education programs value face-to-face interactions. Personal contact, body cues, and client feelings are imperative for a positive therapeutic relationship. In fact, the field of counseling is based on one-to-one, face-to-face interactions (Sperry, Carlson, & Kjos, 2003). Counselor education programs make use of these interactions to train counselors. Experiential courses teach the therapeutic relationship through interactions and practice in class, including the non-verbal aspects of counseling. Traditionally, experiential coursework defines itself with face-to-face

interactions (Quinn, Hohnshil, & Fortune, 2002). WBI does not have the capabilities to read body language or verbal cues. Because of this, there has been some resistance to the use of WBI in counselor education programs (Daniels, Tyler, & Christie, 2000).

However, not all coursework in counselor education is experiential; seventy-five percent is knowledge-based or didactic. For instance, teaching the philosophy or theory of counseling does not necessarily require face-to-face interaction or the understanding or reading of non-verbal cues. These knowledge-based courses, or the knowledge-based components of experiential courses, can be delivered using WBI. For example, group counseling, typically an experiential course, can make use of WBI in its theoretical component (O'Halloran & McCartney, 2004). As a result, these courses or course segments can be delivered via the web using various forms of web-based technologies.

Although some resistance remains, counselor education programs throughout the country are beginning to embrace WBI (Hayes & Robinson, 2000). Influencing this trend toward WBI is The Council for Accreditation of Counseling and Related Educational Programs (CACREP). CACREP, established in 1981, is the national accrediting body for counseling programs. CACREP has committed itself to ensuring quality and high standards in counseling programs. CACREP requires programs it accredits to offer a core curriculum in eight areas: professional identity; social and cultural diversity; human growth and development; career development; helping relationships; group work; appraisal; and research and program evaluation. A counseling program must include a minimum of 48 credit hours to receive CACREP accreditation (http://www.counseling.org/site/PageServer?pagename=cacrep_2001standards700). Receiving a degree from a CACREP-accredited program ensures students that they have

met the educational standards for certification through the National Board of Certified Counselors (http://www.NBCC.org) and licensure in many states (http://www.dora.state.co.us/mental-health/). Web-based instruction supplies counseling program faculty one method of meeting the CACREP core curriculum and 48-hour requirement in an efficient manner, particularly for distance students.

As counseling programs face reduced state budgets, they struggle with ways to provide a cost efficient means of delivering instruction while meeting CACREP standards. One such struggle is to find a way to deliver courses beyond the 48 required by CACREP. Because counselor education programs wish to produce students who are competitive in the job market, they have often had to increase the number of hours beyond CACREP's core. For example, Adams State College, which has met CACREP's 48-hour core curriculum, found a need for content areas beyond this core. After meeting with advisory boards made up of local agency and school personnel, program faculty made adjustments to the program, which ultimately increased program credit hours to 60, 12 hours beyond the CACREP requirement (personal communications, Advisory board meeting with local agencies, August 21,1999). Additionally, students in distance programs are geographically diverse. Finding ways to increase the hours and remain competitive with other programs has created a need for exploring new media for instruction. For these reasons, demands for offering courses online have surfaced (Altekruse & Brew, 2000).

To remain competitive with programs offering fewer than 60 credit hours, Adams State College has focused on meeting student needs. A majority of counseling students are working adults, maintaining fulltime jobs, having family requirements, and seeking

educational goals. Finding alternative delivery systems for instruction to meet students' educational goals and allowing them to maintain their other obligations is important and, therefore, the availability of WBI is essential. Counselor education faculty sees WBI as one way to meet the flexible and diverse instructional needs of students. These needs include increasing communications with students who may not see faculty on a daily basis, offering more courses for students who are part-time, providing opportunities for summer program students to take courses during the traditional fall and spring semesters, and finding alternative modes of instruction that strengthen and complement traditional face-to-face instruction (Daniels, Tyler, & Christie, 2000). With the availability of web-based instruction, students can now complete some coursework from their own homes during times that are convenient. However, though web-based instruction may be a positive means of delivery, little research has focused on the attitudes of students using WBI in programs that have historically been conducted through face-to-face contact.

Hays and Robinson (2000) demonstrated a positive attitude of students using computer-assisted instruction in counseling programs but stress the need for further research in student attitudes towards new technologies such as web-based instruction. Other research has shown that although there is little or no difference in the academic success and overall grades of students using WBI for distance learning, few studies have focused on student attitudes towards using WBI (Stocks & Freddolino, 1998). Carr (2000) noted a significant increase in final course grade for students using WBI in an undergraduate psychology course over traditional instruction, but student attitudes toward using WBI were lower. Carr noted that one of the main reasons for the reported negative attitude was that the WBI course required increased reading of discussion postings and

chat room conversations, which lead to an increase in the time it took to complete assignments. As the need for research in student attitudes towards WBI increases, Carnevale (2000) stresses that students are looking for the same attributes as in traditional instruction. These attributes include knowledgeable instructors, personal interaction, and activities that encourage community in the classroom. If these attributes are met and faculty are dedicated to looking at what factors affect attitudes, students will record positive attitudes toward using WBI as an acceptable means of course delivery (Sanders & Morrison-Shetlar, 2001).

Counselor education programs must continually monitor the varying needs of students. Additionally, institutions must also be aware of what factors contribute to the attitudes of these students using WBI (Daniels, Tyler, & Christie, 2000). Although there have been studies looking at the attitudes of student use of computer technology, they focus mainly on attitudes of general computer use rather than web based instruction (Sanders & Morrison-Shetlar, 2001). Many factors may exist that can also influence attitudes of the students taking these courses while using WBI. Some factors may include learning style, age, job status (full-time, part-time or student), marital status, year in school, and gender (Sanders & Morrison-Shetlar, 2001). Faculty need to take into account these factors and design course material that will facilitate and foster learning in a virtual classroom for counseling students.

Because these factors may play a vital role in attitudes of students using WBI, they should be considered when using such technologies. Instructors must also pay attention to the pedagogy of online learning and how this impacts the attitudes of students taking these courses. Fusing pedagogy and technology to provide an effective learning

environment is vital in maintaining positive attitudes of students taking these courses. Ginsberg (as cited by Imel, 1998) presented four approaches of integrating technology into instruction to help meet the needs of students using WBI. The four approaches are

1. *Technology as curriculum*, which involves creating opportunities for instruction to incorporate technology competencies into course curriculum;
2. *Technology as a delivery mechanism,* which lends itself to providing technology as a means of delivering course content;
3. *Technology as a complement to instruction*, which integrates the use of such technologies as course management systems to act as a supplement to traditional face to face instruction; and
4. *Technology as an instructional tool*, which allows for instructors to integrate various forms of technology, such as Power Point ™, to enhance the course through individual presentations.

Ginsberg's four approaches, as outlined by Imel (1998), can play a vital role in counselor education programs. Each approach provides opportunities for program faculty to strength instruction in WBI. Incorporating technology into counseling program curriculum provides students with the various skills needed by graduation that meet competency guidelines outlined by the Association of Counselor Educators and Supervisors' (ACES) Technology Interest Network (ACES 1999). These technical competencies were approved in 1999 and endorsed by ACES. They are recommendations students should meet by the end of their program. The skills outlined by the interest network (see Appendix A) recommend that students understand computer competencies that will prepare them for future work in the field. Many of the same skills needed to

navigate course management systems meet these competencies. These include the ability to send, receive, and attach documents in email, use software, and be able to search and navigate the Internet. As counselor education programs begin to incorporate web technologies into the curriculum, it is important to understand that course content should drive the technology and not the other way around (Peterson, 2000). With this understood, the instructor will choose the appropriate technologies to incorporate into the curriculum to enhance the course content.

Statement of Research Purpose

The purpose of this study was to look at several factors that may affect the attitudes of counseling students using WBI for taking online courses, as well as campus courses using online supplemental instruction. These factors, or variables, include the student's learning style, age, gender, ethnicity, major, and year in program. Based on the relationship of these variables to the use of WBI, recommendations can be made to change the way faculty deliver these courses to meet the needs and increase the attitudes of students using this medium. This will help facilitate learning and achievement in counselor education programs.

Research Questions

The following research questions were addressed in this study:

1. Do counselor education students tend to be dominant in one particular category of the Gregorc Style Delineator?
2. Are there differences among student learning style in regard to student's attitude toward using web-based instruction?

3. Are there differences among student age in regard to student's attitude toward using web-based instruction?
4. Are there differences among student ethnicity in regard to student's attitude toward using web-based instruction?
5. Are there differences between student gender in regard to student's attitude toward using web-based instruction?
6. Are there differences among student program major in regard to student's attitude toward using web-based instruction?
7. Are there differences among student year in the program in regard to student's attitude toward using web-based instruction?
8. Is there an interaction between any two independent variables (student's learning style, age, gender, ethnicity, major, and year in program) in regard to student's attitude toward using web-based instruction?

Definitions of Terms

The following terms are defined to assist in understanding this research:

1. WebCT- The turnkey computer management system software program stored on a server and used as a course tool system for distance learning. The tools for this study are a bulletin board system, a private email system, a calendar, chat room, testing tool and whiteboard.
2. Online Courses- any course that is offered from a distance where the faculty will not meet with the students face-to-face.

3. Supplemental courses – A traditional face-to-face course where the instructor will use the WebCT course tools to help supplement the in-class discussion and instruction.
4. Pedagogy - In the case of pedagogy, the general definition implies the connection of the teaching by the teacher, to the learning of the child student. Lately, that definition has enlarged to encompass more than the teaching of children, and now refers to the teaching of both children and adults as "the art or profession of teaching." Other educators working with adult education currently use andragogy.
5. Andragogy is the art of teaching adult learners. This concept includes five assumptions of adult learners. These assumptions include self-concept, experience, the readiness to learn, orientation to learn and the motivation to learn (Knowles, 1984).

Delimitations

The following boundaries were anticipated when interpreting results from this study:

Data were collected and analyzed using graduate students at Adams State College in Alamosa, Colorado. Adams State College is a four-year coeducational Carnegie Master's Colleges and Universities I offering limited graduate programs including school and community counseling. Students may complete the program by attending the full-time on-campus program, the summer program, one of the off-campus programs in Pueblo, Durango, or Grand Junction, or the part-time evening program. The participants were students who volunteered and were enrolled in required classes in counseling.

Students took their first course using WBI, either as an online course or as a supplement to a traditional face-to-face class. Students were from five program sites including Alamosa full-time, Alamosa Summer, Grand Junction, Durango, and Pueblo programs.

Limitations of the Study

Using Adams State College as the selected population may not be representative of other counseling programs in the theoretical population. The Gregorc Style Delineator, which was used to determine learning style, produces one of four-style types possible for each individual. The limited number of students in the program and the possibility of one or more types having a small number may have had an effect on the sample size needed for a strong study. This study surveyed only the attitudes of students using WBI in the program rather than how that attitude changes over time. Surveying students using a post-test only design without a control group may not give an accurate result of the outcome of the theoretical population.

Need or Significance of the Study

As counselor education programs increase the required number of hours for graduation, they must find additional means for delivering course content. As the amount of WBI in counseling programs increase, it is imperative that changes are implemented to meet the continuing needs of students. As these needs are met, student attitudes will be affected. Positive attitude toward learning decreases as fear and unfamiliarity of technology is integrated into the program of study (Hays, 1998). If the factors that have the most influence on student positive attitudes are identified, then pedagogy and course delivery can be changed to meet students' needs. As these factors are identified and instruction is changed, attitude will also change toward the positive. This study will

attempt to identify which of the variables presented play a significant role in the attitudes of students' success in counseling programs.

Researcher Perspective

The researcher in this study is a counselor educator in charge of technology for the counseling department at a rural southwestern college. My duties include teaching, supervision of counseling students, program technology coordination, and administration of the college's course management system (WebCT). As the administrator, this researcher's duties include management of the student database, development of the online class template, and building all online and supplemental instruction courses for Teacher Education and Counselor Education programs. The researcher is charged with the training of students in the use of WebCT. I am also responsible for the training and support of all faculty in the use of the technology. This researcher is a strong supporter of the use of web-based instruction for supplementing instruction in the traditional classroom. I feel that with proper training of students and faculty, students can gain a great deal beyond what they may receive in the traditional classroom.

Chapter Two

Review of Literature

Introduction

This review of literature briefly reviews the history of distance education; the development of web-based instruction (WBI); and the interactions learning style, age, ethnicity, and gender has on students using web-based instruction.

History of Distance Education and Development of Web-Based Instruction

Distance education dates back to the early 1700s when correspondence education was developed for rural communities that had no opportunity for formal education. This model reached students who would not be able to attend courses on a college campus due to distance and a lack of resources in rural communities (Watkins, 1991). But it was not until the mid 1800s that formalized distance education developed through correspondence via the postal service. Both in the United States and in Europe, correspondence education developed as a means of delivering education to all who wished to gain traditional education but could not. These included people with physical disabilities, women who were not allowed to enroll in educational institutions open only to men, people who had daytime jobs, and those who lived in remote regions where schools did not exist (Reiser, 1987).

In Europe, Isaac Pitman developed the first correspondence courses using shorthand as the medium for instruction. Pittman, who proclaimed himself the father of

correspondence education, developed the Sir Isaac Pittman Correspondence Colleges (Holmberg, 1986).

As correspondence education continued to grow, the state of New York, in 1883, authorized the first degree-granting correspondence school known as Chautauqua College of Liberal Arts. This college was authorized to grant a degree if students completed work at a summer institute along with correspondence classes during the academic year (Watkins, 1991).

Following the establishment of the Chautauqua College, William Rainey Harper established his collegiate correspondence courses by mail in 1892. Although Harper felt that correspondence would not out-perform oral instruction, he saw the benefits of instruction beyond the college wall (Gagne, 1987). By the turn of the century, other venues were providing educational opportunities beyond the collegiate campuses.

In the early 1900s new developments in technology began to surface in the correspondence world as the first educational radio licenses were granted to the universities of Salt Lake, Wisconsin, and Minnesota. Between 1918 and the1940s, 202 radio licenses were granted to colleges for educational programming. Although there were a number of institutions offering instructional radio programming by the year 1940, only one college course for credit was offered by radio and that course failed to attract any students (Atkins, 1991).

While radio apparently failed as a distance learning medium, television began to show promise as The State University of Iowa became the first institution to broadcast courses via television. As this new medium evolved, the Federal Communications Commission (FCC) created the Instructional Television Fixed Service (ITFS) in 1963 to

develop guidelines and provide selected transmission frequencies for institutions using television for distance education. The FCC provided these institutions with a low-cost, limited range transmission (20-35 mile range) for specific use in delivering these courses (Wallace, 1991). This 20-35 mile range was a step toward meeting the needs of distance students, yet it was still limited.

One year after the advent of the ITFS, the Carnegie Corporation sought to incorporate various forms of communication media into instruction. They commissioned C.A. Wedmeyer to direct the University of Wisconsin's Articulated Instructional Media Project (AIM). This program utilized many forms of correspondence material such as study guides, radio, television broadcasting, audiotapes, and telephone conferences into a curriculum that also included instruction from specialists in the field. As these media were brought together, AIM would provide a complete integrated distance-learning program (Gerrity, 1976).

Based on the strength of the AIM project, Britain's educators came together to establish the British Open University in 1969. The Open University brought a new vision for independence in distance education by offering degrees completely at a distance. This vision redefined the role of distance education as it emancipated itself from traditional education. The British Open University became the leader in correspondence education, bringing necessary respect and confidence. This paved the way for the future of distance education in other countries (Gerrity, 1976). Today the British Open University has more than 200,000 students attending and a history of over 2 million enrolled.

In 1970 a new form of distance education arrived. The state of California funded a task force to design the first interactive television course. This course was to go beyond

delivering instruction one-way from the college to the public as correspondence courses did. Students sat at a site, typically a school classroom, with a camera at their site and a camera at the instructor's site. Students were able to see the instructor and the instructor was able to see the students, and both could interact. Interactive television courses were synchronous; thus the student had to be at the site at the specified time and did not have the capability of taping the session for future playback. The project focused on providing teachers the ability to answer questions, give and grade tests, and ensure that the curriculum was established as academic by being able to see students in a similar situation as that of traditional face-to-face classroom (Wallace, 1991). The licensing of these first interactive television courses was assigned to a new institution and was given the name Coastline Community College (CCC). Coastline is an exemplar for community-based education in providing learning services to those who would benefit from them. In this form "students do not go to the college, but the college will go to the student" (Luskin & Chappell, 1981). A primary characteristic of this model is to provide dispersed learning centers by using various locations for instruction such as public and private facilities not used during off hours (i.e., vacant schools, libraries and businesses after hours).

The impetus that defines the CCC model is the flexible administrative structure. Coastline's administration is divided into four geographical areas. An associate dean is strategically placed in the area to make contact with potential instructor and client groups. The associate dean also has the power to develop programs, implement course offerings, and make contacts within the community to stay connected with their ever-changing needs. One central office is the center-point for the geographical areas to support the

overall mission of the Coastline model. Other concepts that helped to build the Coastline model were open access, diverse faculty, and access to resources such as libraries, student bookstores, and credit-for-life experiences. The primary mode of instruction for CCC was independent study with 20% of the student body using interactive television. Other forms of delivery included mail, telecourses, videocassette, and newspaper. With CCC having no physical walls, it became the first "virtual university" in the United States (Luskin & Chappell, 1981).

By 1972 three community college districts, Miami Dade Community College (FL), Coast Community College (CA), and Dallas County Community College (TX) were producing and offering telecourses using the Coastline model (Gerrity, 1976). Telecourses differ from interactive television courses in that the student can participate from home, using his/her own television. Students were then able to watch or tape the session at their own convenience.

In 1971 distance education began using computer-assisted instruction (CAI). CAI consists of the use of a computer and a program designed to instruct the student with no other human interaction. Later, the development of the microprocessor by Intel and the first email communications would change the face of distance education once more (Sharp, 1999). Email emerged as a foundation for all forms of online learning and teaching, partly due to its cost-effectiveness. Email, in its simplest form, provided personal interaction with the instructor and other students (Kearsley, 2002). This created a more personal touch than CAI and helped to develop a student centered environment by allowing all students to interact with the instructor (Fredericksen, Pickett, Shea, Pelz, & Swan, 1999). The model for email is quite simple; the instructor can post a question with

students responding in a timely manner to stimulate conversation and interaction among participants. This method provides asynchronous communication among students and teacher. This in turn allows everyone to participate in communication (Smith, Whiteley, & Smith, 1999). In 1978 the first "bulletin board" system was established allowing for asynchronous communication among groups without having to send messages to each individual person. Everyone in the bulletin board group could participate as long as they were members of that group (Kearsley, 2002). The main benefits of these bulletin boards were to allow participants the ability to reflect and compose at their own pace and convenience, allowing for around the clock discussions (Collins, 1998).

As computer and microprocessor developments continued, the creation of satellite broadcasting emerged in 1981. Satellite broadcasting technology allowed institutions to provide audio and video downlinks to various remote locations. Because satellite broadcasting was faster, more advanced, and could reach beyond that of traditional telecourses, it sparked an onset of growth in instruction outside the university walls. The Annenberg Corporation and the Public Broadcasting System (PBS) were the first to utilize technologies such as satellite transmissions to provide college credit telecourses. Because of the success of the Annenberg Corporation and PBS delivering academic credit using this new technology, over 2,000 colleges and universities got on board and made use of these satellite transmissions. In 1984 the first official online course was delivered by the New Jersey Institute of Technology (http://www.pbs.org). Later that year Lionel Baldwin, the Dean of Engineering at Colorado State University, foresaw the benefit of providing the highest level of continuing education to engineering professionals through satellite technology. Through the efforts of major corporations like

Motorola, IBM and Hewlett-Packard, Baldwin formed National Technological University (NTU) to provide academic courses via satellite to corporations for onsite trainings. Later that year NTU began offering degree programs using courses supplied by major universities. When NTU opened its doors, it was considered the first accredited "virtual" university (http://www.ntu.edu).

Technological advancements continued to influence the delivery of distance education as new developments provided access for new instructional techniques. The Internet was originally developed as a communication tool for researchers at the Massachusetts Institute of Technology (MIT) and later as a project by the Department of Defense to ensure communication during a possible nuclear attack. It was not until 1991 that Tim Berners-Lee developed the World Wide Web. This innovative development further enhanced the possibilities of using technology for education (Sharp, 1999, p. 275). Berner-Lee set out to develop a system protocol that would allow easy access to information networked across the world that would be easy to read and understand. This language was called hypertext markup language (HTML). After Berner-Lee's development of the World Wide Web, software developers set out to develop easy graphic software that would allow a basic user to access the web without any special programming skills. In 1993 Marc Andreesen created Mosaic, a browser client that allowed users to browse the web. In December of 1993, Andreesen started a new company called Netscape and soon produced free browser software (http://ei.cs.vt.edu/~wwwbtb/book/chap1/web_hist.html). As the World Wide Web grew in popularity innovative uses for its use in education arose.

In 1994 Murray Goldberg, a professor in computer science at the University of British Colombia in Vancouver, British Columbia, Canada, received a Teaching and Learning Enhancement Grant to develop a course using the World Wide Web (WWW). After completion of the first grant, Goldberg received additional grant funding to continue his work in online learning. Emphasis for this new grant would be to create a web-based user interface or course management system (CMS) rather than one course at a time. The CMS was designed to provide all the tools necessary to create a fully functioning virtual online class. This CMS included a discussion board, private email tool, calendar, chat room and a host of other tools password protected for fully online instruction or as a supplement to face-to-face instruction. The course management system that Goldberg developed was named WebCT and in 1996 was presented to the public free of charge to help encourage online learning. At the time, WebCT was the second CMS available (with the first arriving one year earlier) to the public and the only one provided at no charge to the academic public. It produced 100 users within six months, and by 1999, WebCT had 2 million users (M. Goldberg, personal communication, February 10, 2003).

With the onset and development of course management systems, many new virtual universities sprang up including the California Virtual University, Western Governors' University, and the sister school for the British Open University, called United States Open University. But it was not until Jones International University received North Central Accreditation that the educational world took notice and realized the milestone that distance education had accomplished in providing an accredited quality education for distance students (Schank, 2002).

Throughout the history of distance education, innovations have set the tone for enhancing the learning process for instructors and students. From as far back as using the mail to reach individuals who otherwise would not have access to learning opportunities though traditional means, pioneers in education have looked toward technology to meet instructional needs in distance education. As technology evolved from the use of mail, the introduction of radio, and television broadcasting, new possibilities for reaching the underserved arose in distance learning. But it was not until the development of the World Wide Web and course management systems that the world took notice and a new era in distance education was begun. Colleges and universities developed online programs to meet the demands of learners eager to meet personal goals but who did not have the flexibility to come to the campus. With the new advances and the acceptance of web-based instructional technology in distance learning, the need for research to better understand how well student needs are being met is becoming more evident (Kulik & Kulik, 1986). The time has come to explore the effectiveness of these new modalities and student attitudes towards using course management systems such as WebCT for web-based instruction. Colleges and universities are continuing to progress in the offerings of online courses and seek to make changes in curriculum to provide rich learning environments for students and faculty. Considerations should be taken into account when andragogical changes are made to online curriculum. One such consideration should focus on how factors such as learning style affect the outcome of student attitudes towards using such technology in distance learning.

Learning Style

To understand the role that learning style plays in web-based instruction, it is important to briefly examine the main constructs and various applied theories. There are many variations for the definition of learning styles, from "self-consistent, enduring individual differences in cognitive organization and function" (Ausubel, Novak, & Hanesian, 1978, p.203), to a way in which learners begin to concentrate, process, and retain new information (Dunn & Dunn, 1987). Some authors say learning style focuses on enduring qualities of individuals and it is suggested that it may be difficult for this to change in students (Shih & Gamon, 2001). Robert Sternburg (1994) challenges this belief by stating that learning style is "a preferred way of using one's abilities. It is not in itself an ability but rather a preference" (p. 36). Although learning style may be a preference, individuals hold various style characteristics. They are not locked into only one style. What is important, according to Sternburg (as quoted in Taylor, 1997), is that teachers vary teaching style to meet all the different thinking and learning styles rather than hoping all students will fit nicely into one learning style category. Although there are varying differences among theorists, the one concept that remains the same is that learning style is the unique way that individuals interact with the environment. This review of literature will look at three learning styles that have been used by educators for predicting learning preference. These theories have been used to make adjustments to curricular need of students and teachers. Understanding learning style will help develop the conceptual framework for this study.

The Myers-Briggs Type Indicator (MBTI) has been widely used since 1975 as a counseling tool for self-understanding. Through her interests of understanding human

personality types, Katharine C. Briggs became interested in Carl Jung's personality theory. From his book, *Psychological Types*, Briggs developed her own theory by studying Jung's and seeing the congruence between their philosophies. She then taught the system to her daughter Isabel Briggs Myers and both began implementing this system informally through "type watching" other people. In 1942, Meyers began entertaining the notion of using the type indicator for educational purposes. By 1962, many research studies validated the type indicator and in 1975, the Consulting Psychologist Press began distributing the indicator for professional application (McCaulley, 1981).

The Myers-Briggs Type Indicator is a forced-choice, self-report personality inventory based on Jung's theory of personality. The MBTI consists of four scales: (1) Extroversion-Introversion, (2) Sensation-Perception, (3) Thinking-Feeling, and (4) Judgment-Perception. Extroversion-Introversion is the way that a person reacts towards the world. Extroverts will orient themselves toward the outside world. Therefore they will orient their perceptions and judgments towards people and objects. Introverts will orient themselves toward the inner world, thus focusing their judgments and perceptions toward ideas and concepts. Sensing-Intuition is the way that an individual perceives the world. Sensing is the way that an individual will report observable facts or happenings through one or more of the five senses. Intuition is the way an individual reports meanings, relationships and possibilities through unconscious intuitions. Thinking-Feeling is the way that an individual makes judgments or decisions in the world. Thinking is the way an individual will make decisions through logical consequences. Feeling is the way an individual will make decisions through emotional consequences. Judgment-Perception is the way individuals prefer to live in the outer world. This construct originally was not

part of Jung's theory although it was implied. Myers made this construct explicit to permit identification for two preferences that were favored in the MBTI. Judgment is the process a person will choose to deal with the outside world. Perception is the process that allows a person to deal with the outside world relying on sensing or intuition to react to it (Briggs-Myers & McCaulley, 1992).

Sewall (1986) discussed the psychometric quality of the MBTI as a viable tool for predicting learning style preference. In an analysis of the quality of this instrument he stated that the test was sufficient in detecting learning preference and was deemed one of the better tests available at the time. Provost and Anchors (1987) discuss the limitations as a learning style preference indicator but focus the strength of the MBTI as a personality behavior assessment that can support educators to help student learning. They discuss the importance of having many personality types to support the many different learning preferences. Although the test limits its ability to identify preferences toward visual, auditory, and kinesthetic channels, the test focuses on behavioral traits toward personality. Once a student's type is identified, predictions can be made about how the student learns best and suggestions can be made as to how an individual can study best for that preference.

Dunn and Dunn (1993) believed that if "students cannot learn the way we teach them, then we must teach them the way they learn." As a result of this they believed that both achievement and motivation improve when learning styles are matched. The authors feel that it is crucial for teachers to understand that not all individuals learn the same way, and that it is important to adapt to student preference through instructional planning, student groupings, room design, teaching environments, teaching characteristics and

methods, and class evaluation techniques designed to assess what is working and what is not.

In 1968-69, Rita and Kenneth Dunn developed the their first Learning Style Inventory (LSI) to elicit student learning preferences (Dunn & Dunn, 1979). The Dunn's focused on the four areas that affected learners. These areas were their immediate environmental stimulus, emotional stimulus, sociological stimulus, and physical needs. Dunn and Dunn (1979) felt that in order for someone to make an effective diagnosis of learning style, the basic definitions must be understood.

Environmental stimulus involves sound, light, temperature, and design. Sound refers to the student's preference for background sound while learning. For example, does the learner prefer to have silence or music when studying? Light refers to the level of illumination that is preferred by students when learning. This concept refers to the amount of light an individual prefers while studying and how this affects the ability to concentrate. Temperature refers to the level of warm or cold an individual prefers while learning. How does the temperature of a room affect the ability to concentrate? Design of the room refers to how the room is set up. For example, how is the furniture arranged? Does the individual prefer sitting, standing, or lying down? Dunn and Dunn (1979) noted that light affected individuals the least while sound and temperature affected students the most.

Emotional Stimulus refers to the motivations, persistence, and responsibility of the student as well as the structure of the learning activities. Motivation is the element that deals with the level of fortitude that a student will have for academic learning. The LSI examines whether students are motivated toward learning in an intrinsic way or

through feedback and reinforcement. Persistence is the element that relates to an individual's persistence toward completing a task and focuses on attention span. The LSI explores whether the individual prefers working on one task at a time or on many at one time. Responsibility refers to the extent to which individuals take accountability for their own learning. This refers to individual's preference towards working alone and the ability to be self-motivated to complete this task. Structure refers to an individual's preference toward working on well thought-out activities.

Sociological stimulus refers to the way that individuals prefer working within a collective manner. The LSI examines whether the individual prefer working by him/herself, with a partner in a paired situation, or with peers in a team manner. It also looks at whether the individual struggles with authority figures while working on projects or enjoys working in a variety of routines.

The Physiological Stimulus refers to the perceptual senses of the individual as they relate to learning. The Perceptual stimulus refers to the human senses. For example, do individuals prefer working with their hands, or do they prefer seeing and doing by visual examples? Does the individual prefer learning through listening or through note taking as in kinesthetic learning? Intake refers to being concerned with the need to eat, drink, or chew while learning. For example, does munching on snacks help the individual concentrate while learning? Time refers to the concept of the amount of energy an individual has while learning during the various times of the day. The LSI examines whether the individual prefers learning in the morning, afternoon, or evening. Mobility refers to the ability to stand in one place at a time to engage in learning activities. The

LSI examines whether the individual prefers sitting in one spot during learning activities, or moving around, standing, walking, or changing body positions.

Dunn and Dunn (1979) strongly believe that both achievement and motivation improve when learning style and teaching style match. They went on to add that most teachers do not teach as they were taught but rather as they learned, giving way to the idea that there is only one way and that all should fit into one box. Teaching can improve if teachers are willing to look at ways to meet students' needs. These needs are assessed through the ability to recognize individual student learning preferences.

The specific tool used in this study for determining learning style is the Gregorc Style Delineator. In 1970 Dr. Anthony Gregorc began a phenomenological study focusing on how, what, and why individuals learn (Gregorc 1982). Over the next 11 years, Gregorc developed a theory based on his experiences as a teacher, administrator, and college professor, which led to the Gregorc Style Delineator. The Gregorc Style Delineator is a self-analysis tool designed to aid individuals in understanding how they receive and process information efficiently and economically. This process is based on Mediation Ability Theory, which states that the human mind has the channels through which it receives and expresses information most efficiently and effectively (Gregorc, 1979). According to Gregorc (1982), the term 'mediation abilities' describes a person's capacity to use these channels.

Gregorc noticed that children and adults varied in the means of how they process information. These insights lead to his research and the development of the formalized style inventory. The Gregorc Style Delineator is designed to reveal two types of mediation abilities. The first is the perceptual abilities, Abstractness and Concreteness.

One of the two perceptual abilities will emerge as dominant in an individual. Abstractness is the ability to grasp, conceive, and visualize data through reason and to emotionally and intuitively register ideas, concepts, drives, desires and spirituality. This quality allows experience that is formless and invisible to the five physical senses, sight, taste, touch, smell and hearing. Concreteness, on the other hand, allows individuals to grasp and mentally register data through the direct use of the five senses. This allows an individual to understand what is physical in their concrete world.

The second of the mediation abilities is the ordering abilities. Ordering abilities allow individuals to arrange, systematize, reference, and dispose of information. These order abilities will show themselves in one of two ways, Sequence or Randomness. Sequence is the quality that disposes the mind to grasp information in a linear, step-by-step pre-determined order. Information is gathered, processed and ordered in a chainlike manner This allows an individual to naturally arrange and sequence information so that it can be expressed in a precise, progressive and logical manner. Randomness allows the mind to grasp and organize information in a nonlinear manner. Large chunks of information can be processed in the mind in a fraction of a second and in any order. This quality allows the individual to deal with numerous amounts of information in a diverse, independent and holistic manner. As a result, individuals can express themselves in a multifaceted and unconventional manner.

Based on his eleven years of phenomenological research, Gregorc found that individuals exhibit evidence of both abstractness/concreteness and sequences/randomness despite race, color, creed, or gender (Gregorc, 2001). Taking into account individual differences and the stressors that the environment places on these individuals, dominance

of perception and ordering will display itself in one of four ways as a dominance of style. These style constructs are (1) Concrete Sequential (CS), (2) Abstract/Random (AR), (3) Abstract/Sequential (AS) and, (4) Concrete/Random (CR).

The Gregorc Style Delineator, which will be discussed in more detail in Chapter 3, uses descriptive words listed in groups of four. For example, a set of words might include sun, moon, star, and earth. These words are scored from highest to lowest, highest being the most descriptive of the individual and lowest being the least descriptive. After the ordering of words is complete, the individual self-scores the inventory to come up with four scores for each of the four constructs. The dominant score shows the individual's dominant style. Gregorc style then uses the dominant score to give descriptors of an individual's distinguishable characteristics. There is a broad scope of characteristics for each of the constructs within the Style Delineator and, for the purpose of this study, only learner characteristics will be addressed (see Appendix B).

Within these models, there are still unresolved issues that researchers have failed to address. These issues are theoretical and practical and include the following: the delimiters of learning style, learning style change over time, and "at-risk" students being served well using a learning-style based model for teaching (Wilson, 1998). Gregorc (1984) addresses the issue of learning style changing over time; he emphasizes that learning style inventories should not be administered to children as this could cause self-fulfilling prophecies. He also emphasizes that learning style is still developing well into adulthood. Carbo and Hodges (1988), believing that a match in style between student and teacher increases learning and decreases stress, developed learning style strategies that can help at-risk students succeed. Others (Shih & Gamon, 2001; Carbo & Hodges, 1998;

Pogrow, 1994; & Jordanov, 2001) have offered strategies for having a successful match with learning styles between student and teacher. The themes underlying the strategies for a successful match are to offer intriguing classroom environments, to use a variety of methods to deliver content, and to communicate with students to assess what is working and what is not. Web-based instruction might offer such a medium for meeting these strategies. Exploratory research needs to narrow its focus and look at how WBI and learning style interact.

Research Related to Learning Style and Web-Based Instruction

While there is a significant amount of literature related to learning style, there is limited research in the area of learning styles and web-based instruction. The bulk of the research that does exist focuses on specific technological tasks such as Internet use and searching capabilities (Logan, 1990). Schellens and Valcke (2000) discussed the need for reengineering WBI course content to meet the new models for online learning. They felt that if learning style aligned with the technology then student attitudes increased overall. As technology evolves there is a positive outlook that WBI will be able to meet the individual needs of students (Collins, 1998). Clearly it is critical to acknowledge that learning styles affect an individual's perception and attitudes in the classroom and that somehow, this must be translated to WBI. Achievement increases and creates positive feelings about the technology as learning style strategies are met. Felder and Silverman (as quoted in Schellens & Valcke 2000) discovered that students' abilities to retain information and apply it in meaningful ways were the result of the students' learning style aligning with instructional style.

Student satisfaction is another area of research to examine. An increasing number of institutions explored the use of telecommunications in instructional delivery systems. Recent research has focused on the satisfaction of students using these technologies (Bower, Kamata, & Smith, 2001; Gallagher & McCormick, 1999) noted that the current research on satisfaction of students using telecommunications for instruction showed mixed results. They found a split. Some students preferred traditional classroom experiences because of the lack of print material resources, face-to-face contact, and lack of involvement in telecommunications courses. Others appreciated the flexibility of the courses, as well as saving time and money by not having to travel to the traditional site. In their study, results were favorable with students reporting televised courses, as an acceptable means of delivering instruction even though, given the choice, most would prefer traditional course delivery. Despite the mixed results from research, when utilized properly with course suitability considered, student needs and abilities as well as instructors' goals can be met through telecommunications technology (Guzley, Avanzino, & Bor, 2001).

Hispanics fall behind in education and employment rates within the general population (Kreuze & Payne, 1989). In an effort to increase these rates, instructors and administrators are focusing efforts to explore the factors that contribute to the support of these students. One such factor is learning style. Finding ways to meet student needs through the matching of teaching methods is critical in the success of this population. Kreuze and Payne (1989) studied the Gregorc Style Delineator and Hispanic students to see if there was any significant difference in student style preference between Hispanic students and Anglo students. Participants from a Midwest university ($n = 627$)

participated to determine if there was a significant difference between learning style preference and their ethnic background. Results from the study showed that there was no significant difference between learning style preference and ethnicity. The researchers concluded that although there is no significant difference, instructors need to be cognizant of the various needs of all students. Faculty needs to be aware that students learn differently. By looking at different teaching strategies and methods, faculty can create a positive learning environment and reduce fear, frustration and anxiety in the classroom for all students (Kreuze & Payne, 1989).

Fournier and Schmidt (1995) studied the relationship between learning style and voice input technology to see if there was a difference in overall performance. Using the Gregorc Style Delineator and the Attitude Toward Voice Input Technology Scale (ATVIS), participants (n = 50) studying to become vocational teachers first took the Gregorc Style Delineator, then participated in a voice dictation exercise, and finally completed the ATVIS scale. Results from the Gregorc netted similar results in three (CS, AR, CR) of the four style preferences with the elimination of the fourth (AS) because of a lack of individuals scoring in this preference. Data analysis looking for a relationship between learning styles, attitudes towards voice input technology, and performance showed no significant difference or interaction among the variables. Conclusions from the authors were that student learning styles were not a contributing factor in the performance of students using voice input instruction. They went further to add that teachers need not adopt teaching strategies to meet students' learning style when voice input technology is involved. While this might not be true for voice input technology, this may not apply to WBI. Because of the limited research looking at WBI and learning

style, research should now focus on students' learning style differences and how they interact with WBI.

Ross and Schulz (1999) conducted exploratory research on the impact of learning style on computer interaction. Participants (n = 70) from a large Canadian university took the Gregorc Style Delineator to determine dominant learning style. Scores from the participants were then used to measure differences in learning outcomes of students using computer-assisted instruction. The summary of data analysis indicated that there was a significant difference in achievement between the four learning style groups. The data suggests that dominant Abstract Random (AR) participants differ significantly from both Abstract Sequential (AS) and Concrete Sequential (CS) learners (see Appendix B for information about the Gregorc Style Delineator). AR learners were found to spend less time using CAI as a support for learning outcomes and, therefore, the least amount of change in this study can be attributed to this type. In terms of learning outcomes, the data showed that, overall, the group of participants increased learning outcomes from the pre-test to the post-test but differed based on learning style. This led the authors to believe that the use of CAI increased learning outcomes, but based on participants' learning style preference, outcomes can be affected.

In a four-year longitudinal study, Ross, Drysdale, and Schultz (2001) used participants from a major Canadian university to examine the relationship between academic performance and learning style. Using participants (n = 974) in two introductory computer application courses, the researchers determined that AR students performed the poorest of all the learning groups. CS and AS learners outperformed the other style preferences in this study and according to Gregorc (1982), these students

prefer working with computers. These findings paralleled that of a previous study by Ross and Schulz (1999).

As web-based instruction becomes common in distance education, research into the attitudes of the students using this medium needs to continue. One such study by Westbrook (1999) explored the attitudes of graduate students using web-based instruction. The participants in this study ($n = 32$) came from a summer graduate program at a Midwest private university. A pre-class assessment of the student attitude toward instruction was completed at the beginning of the summer session. At the end, another survey was administered. The researchers attempted to measure whether there was a significant difference in the anticipated attitudes toward web-delivery prior to the course and if this changed over time. The results of the study indicated that there was a general positive attitude of graduate students using web-based instruction in their class. This also changed over time with the researcher noting that students felt that there was more student-to-instructor and student-to-student interaction than was originally anticipated.

There are a number of course management systems (CMS) available for web-based instruction (WBI). The influence that a CMS has on the overall attitude of students using WBI is fundamental in the success of a program. Wernet, Olliges, & Delicath (2000) studied the satisfaction of social work students use of the course management system WebCT to determine if older nontraditional students are disadvantaged by using such a medium for course delivery. Surveying participants ($n = 39$) in one undergraduate and one graduate course in social work, the researchers sought to determine if nontraditional students felt disadvantaged using technology as a delivery tool. Results of

the survey indicated that nontraditional students did not feel disadvantaged, but also felt that this was a convenient means of disseminating course material over the web.

Using WBI as a supplemental instruction tool in a traditional classroom provides students with a rich environment that supports traditional instruction. Sanders and Morrison-Shetlar (2001) studied the use of supplemental instruction in a biology course to see if providing students with an additional instructional tool would support learning, problem-solving and critical thinking skills. More importantly, measuring the attitudes of students' use of WBI was the impetus of this study. Using participants from a midsized rural university (n = 110), investigators administered a learning style profile and a web-based instruction attitude scale. Data analysis determined that participants had a highly positive attitude toward WBI and preferred having the addition of a web-based component to the traditional class. Being able to support instruction in the classroom and scaffolding problem solving and critical thinking skills attributed to the overall positive attitude toward WBI. The data showed that women had a higher positive attitude toward WBI than did the males. This seemed to contradict research showing that males have a higher positive attitude towards computers than females (Miller, Schweingruber, & Brandenburg, 2001).

As more exploratory research is conducted on learning style and the effects of attitudes in online environments, more specific recommendations can be made to enhance student attitudes in web-based instruction.

Age

While learning style is critical, age may also play a role in student attitudes toward WBI. Little research has been conducted into how the age of a student affects

attitude toward online courses. The little that does exist has determined that there is a significant difference between age of student and attitudes about computing (van Braak, 2001). Older adults were shown to have less anxiety about computers but were less confident about using them, where as young students showed more confidence (Dyck, Gee, & Smither, 1998). Although there are slight differences in the enthusiasm regarding computer use between older users and younger, attitudes show no significant effect between the ages (Durndell, Glissov, & Siann, 1995).

In a study by the National Telecommunications and Information Administration ([NITA], 2000), the highest computer Internet use is for children and teenage groups. The second highest is with individuals in the age group from 20 to 50 years old and the third for those over 50. This has remained relatively unchanged in the past five years. The study also showed that online activity also reflects the user's age. For example, those over the age 55 tended to use the Internet for games, banking, job searches, online trading, and looking up medical information. Users 25-34 years old used the Internet for banking and shopping, while children and adolescents used it for games and schoolwork.

Although there is little research about age and computing, the data that has been presented shows significant differences in the attitudes of individuals using computers for general uses like the Internet, games, etc. More research needs to focus on the attitudes of using computers for web-based instruction to make recommendations for andragogy in distance learning environments.

Gender

The importance of understanding gender difference and how this affects attitudes towards web-based instruction in course delivery is imperative in developing a successful

online curriculum. Since the 1980s research has looked at how gender differences affect the use of computers in education. This early research has focused on persistence in courses, as well as careers in computers, seeking to understand what attributes affect individuals (Young, 2001). Much of this research seeks to identify predictors as to why more males are in the field and feel more comfortable with computers and why females tend to feel disconnected and pull away (American Association of University Women ([AAUW], 2000). The research focusing on early predictors for boys and girls in school settings points to the stereotype that males are more "tech savvy" and that females are more reticent to embrace technology. As computers evolved in the 1980s and early 1990s, they were seen as toys rather than tools for educational purposes. Males were more eager to embrace the technology and became more at ease with playing games, programming, and seeing computers as recreational. Females look at computers as a tool to accomplish a task such as word processing, communicating with others via the Internet, or performing other duties (Miller, Schweingruber, & Brandenburg, 2001). A study by the AAUW (2000) showed a tendency for females to be unsure of computer technology, such as speed of the machine or how they work, as well as their own abilities, even though they are equally capable. Recommendations from the AAUW focused on gender equity in computing and moving beyond just providing access to all. Rather, they suggest placing an emphasis on computer fluency, including a mastery of analytical skills, computer concepts, and girls' ability to imagine innovative uses for technology.

Despite the continuing trends regarding career paths for technology, current research suggests that the digital divide is closing as the confidence levels of males and

females are narrowing (Miller, Schweingruber, & Brandenburg, 2001). Miller, Schweingruber, and Brandenburg (2001) surveyed 568 middle school students as to their self-perception of computer skills and exposure to technology at home and school. Results showed that there was no significant difference for boys (98.6%) and girls (98.2%) in regard to their computer skills. Similarly, there was no significant difference (80.7% of boys and 84.1% of girls) in access to a computer at home or school. This study indicates that gender differences are beginning to equal out and shows positive prospects for the future. In a study focusing on attitudes towards computers, McCoy, Heafner, Burdick, Matthew, and Nagle (2001) surveyed 800 students asking various questions regarding computer use and attitudes towards using them. Results were positive with no significant difference between genders even though males rate themselves higher in regard to expertise than did females.

The NITA study (2000) stated that users of the Internet in 1998 were 31.2 % female and 34.1 % male. By August of 2000 those rates had increased to 44.6% for men and 44.2% for women. In the latest study by a joint commission of the NITA and the Economics and Statistical Administration ([ESA], 2002), the rates are almost indistinguishable at 53.9 for males and 53.8 for female. Although the rates are even for usage, males and females are still using the Internet for different reasons. Men tend to use the Internet to check the news, weather, sports, or financial trading, and women tend to use it for communication, health services, or work related activities.

As the digital divide tightens for males and females using the Internet, it is reported that flexibility is a major positive factor for both genders as they take online courses. Sullivan (2001) showed that 42% of males and 50% of females feel that

flexibility is a key factor for online courses. Results showed a greater need for females to balance family, work, and school than for males. This may be why females tend to take more online courses and successfully complete them (Sullivan, 2001). Regardless of the differences between the genders, the AAUW (2000) believes that creating a flexible, less "chilly" environment, as well as positive faculty interaction, are key factors in creating positive experiences for students. This in turn creates positive attitudes towards web-based instruction. AAUW suggests that one way to create a less chilly environment is to focus more on the content and less on the technical aspects of the course. In this way, the computer becomes more than just a high-tech blackboard (AAUW, 2000).

Males feel more at ease with computers and use them for games and entertainment. Females, on the other hand, tend to use computers for word processing, communication, and problem solving and appreciate the flexibility that online courses have to offer. With this in mind it appears that general attitudes toward WBI would be higher for females than for males. Providing environments for both genders, allowing for the content to include meaningful problem solving activities, as well as entertaining aspects, can lead to a successful environment for both genders

Ethnicity

Ethnicity may be another factor affecting student attitudes towards WBI. There is much controversy regarding research around race, ethnicity, and computers. The key problem is validity. Early studies of race and the digital divide were mostly governmental sponsored (Latimer 2001). The variations in these studies have prompted nongovernmental sources to study this relationship. A study in April of 2000 by one independent research firm concluded that the earlier government studies showed low

usage by Hispanic and Blacks but never stated why. The final conclusion stated that it was income, not ethnic background, which was the determining factor in computer and Internet usage. The group continued to present current figures into the breakdown of ethnicity and computer usage with Whites ranking third behind Asians and Hispanics. It should be noted that Blacks, although rated 4th in usage, have had the highest increase in usage with a 44 % increase from 1999 and 2000 (Latimer, 2001). Very little research has been completed to date regarding computer use among ethnicity. Most of the literature regarding this topic is rooted in demographics of end-users.

Research Related to the Problems with Web-Based Instruction

Little research has focused on the problems with web-based instruction in distance learning environments (Hara & Kling, 1999). Burge (1994) ascertains that more research needs to be conducted, as there is a shortage in qualitative and quantitative studies. Hara and Kling (1999) offered possible reasons for the phenomenon in that there is a lack of research occurring in this area. The first is that researchers in distance educations may be biased toward the technology and may want to see positive outcome in the field. Second, little qualitative data has been collected. Of the data that is collected in this area, much of it is descriptive. Other collected data is through course evaluations, which may not be valid as subjects may not be honest about the technology due to the relationship with the instructor. Additionally, students may not express their frustrations with WBI since they are asked at the end of the course and are relieved that the course is over.

As web-based instruction continues to evolve, research needs to continue to look at positive and negative views toward the technology. Although studies focusing on the

positive aspects of web-based instruction continue to grow, those focusing on frustrations with the technology are few. Abrahamson (1998) discussed the issues that arise with the use of WBI in distance education. The article discusses communication as the primary issue that affect student success while using WBI. The primary issue discussed is the personal contact between the instructor and student. Students report that they have difficulty with WBI when they do not have ongoing contact with their instructors. Student often feel overwhelmed when exposed to WBI in distance learning, it is important for communication to take place between student and instructor. Other issues discuss the frustration with technology problems. As students struggle with the technology, anxiety increases and sustained frustration impedes student-learning outcomes (Hara, & Kling, 1999). The need for training to prepare students for the tasks ahead, and continued communication will help to reduce the frustration of students using web-based instruction.

Summary of Research

As a result of the changes in delivery for distance education, it is imperative to focus on making the necessary changes in pedagogy and andragogy, not only to meet the students' needs but to meet the standards of the institution as well. One such need for institutions to focus on while delivering these courses via an alternative delivery system is the attitudes of the students taking these courses. The driving question becomes how can the needs of the students be met and what factors contribute to the satisfaction of these students taking these courses. Learning style continues to surface when considering attitudes of students using web-based instruction in instructional mediums. Web-based instruction is a relatively new field but its roots lie deep in the history of distance

education. From the earliest demonstration in correspondence education to the newest forms of course management systems such as WebCT; opportunities for meeting student needs have opened new horizons for distance education. Understanding these tools for delivery, seeking to find the factors that drive student attitudes, and meeting the needs of these students is the impetus that drives this study.

Understanding learning style and being cognizant of its role in the attitudes of students using WBI are critical in developing courses that meet student needs. Other factors that may play a role in fostering positive attitudes toward using include age, gender and ethnicity. Additionally, learning style and its interaction with each factor should be explored either independently or as a whole.

Research focusing on the attitude of students using WBI continues to be limited. However research that is disseminated consistently shows positive attitudes toward using such technologies as long as faculty are cognizant of the variables that can affect these attitudes. Learning style is one factor that showed significant differences between web-based instruction and student attitudes. The gender gap is another factor that seems to be changing with advances in technology and exposure to all populations. As research is explored in the attitudes of students using current technology, faculty become more aware of the factors that play a role in this technological development, and thus, meet student needs.

Research on the use of the World Wide Web lacks disciplined scholarly articles. Many of the published articles published are descriptions of technology implementation in the classroom (Windschitl, 1998). Reasons for this are that the World Wide Web and all its technologies are relatively new. As the technology grows and more online courses

are developed, the need for scholarly articles is essential. The researcher in this study also found little research focusing on attitude, and satisfaction while using web-based instruction. Most of the articles continued to focus on achievement, comparisons to traditional instruction and effectiveness of online learning. The need for more scholarly research is needed as web-based instruction continues to evolve.

Chapter Three

Methodology

Introduction

This chapter is divided into seven sections including: a description of the research design, an overview of Adams State College (ASC), a description of the participants and sites, a description of the data collection and procedures, the measurements and instruments used, and the procedures for data analysis.

As counseling programs begin to use limited online environments to aid the training of counseling students, many issues arise. The issues that drive this study are to look at ways of developing a strong online environment while understanding what variables affect the attitudes of students using web-based instruction.

The findings resulting from this study will help assist counselor education faculty to develop ways to continue to meet student needs while using web-based instruction. Understanding which learning style affects the attitude of counseling students taking courses using WebCT can help faculty to adjust course delivery to meet student needs.

Research Design

The purpose of this study was to conduct exploratory research surveying counseling students about their attitudes toward web-based instruction (WBI). The researcher was interested in looking at the general attitudes of students using WBI, the relationship of variables on the attitudes of students, and how they are related to learning style using the Gregorc Style Delineator. Upon completion of this study,

recommendations were made to program faculty on how to strengthen online courses to meet students' needs.

Based on the review of literature and the theory presented by Anthony Gregorc (Appendix B), this quantitative study focused on looking at the presented research questions and the differences between variables. This study utilized attribute independent variables and a between subjects design. A comparative design was used to determine the differences between attitudes about using WBI. The researcher also looked at how other variables such as learning style, age, gender, ethnicity, major, year in program, and computer experience may relate to the attitude of students using WBI.

Two surveys and a general demographic worksheet were given to all participants. Upon completion of the surveys, analysis of data was conducted using SPSS to determine the relationship among variables. The surveys and demographic worksheet were in packages and administered at the same time by the researcher. The first survey was a general WBI attitude survey. After the attitude survey is completed then the Gregorc Style Delineator was administered and self-scored. Upon completion of the surveys, a general presentation of the Gregorc was provided to help participants understand their learning style. The entire procedure took about 90 minutes.

Adams State College

Adams State College (ASC) is a four-year coeducational, comprehensive college offering associate's, bachelor's and limited master's degree programs. The estimated enrollment of ASC is 2,500 campus students with more than 10,000 extended studies students. The tree-lined 90-acre campus is located in Alamosa, Colorado, which is in the San Luis Valley of south central Colorado.

Adams State College has four schools: (1) Education and Graduate Studies; (2) Arts and Letters; (3) Business; and (4) Science, Math, and Technology. They include the following degrees: Associate of Arts, Associate of Science, Bachelor of Arts, Bachelor of Science, and Master of Arts. Adams State delivers limited graduate degrees in the areas of Art, Physical Education, Teacher Education, and Counseling. The purpose of this study was to assess the attitudes of counseling students using WBI in their program and, therefore, this study focused on the Master's degree program in Counseling.

The Department of Psychology and Counselor Education (see counseling information sheet in Appendix C) offers Master of Arts programs in school and community counseling. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), and the Colorado Department of Education accredit these programs. The MA degree in counseling is a 60-hour program. Students may complete the program by attending the full-time on-campus program, the summer program, one of the off-campus programs in Pueblo, Durango, or Grand Junction, or the part-time evening program. State licensure is available for those seeking school counseling licensure and the state academic requirements are met for those seeking to become a Licensed Professional Counselor.

Participants and Sites

The accessible population for this study was graduate counseling students at Adams State College. The sample was convenience sample and the population includes students at various levels of their graduate studies. Participants from all sites (Alamosa, Durango, Grand Junction, and Pueblo) were asked to participate in this study. The sample

breakdowns are from 4 sites and 10 cohort groups. With a total sample population of 158 students at the four sites the breakdown was as follows:

Site Location	Number of cohorts	Number of Total Participants
Alamosa Cohort	2	42 Students
Durango Cohort	1	20 Students
Pueblo Cohort	3	44 Students
Grand Junction Cohort	2	38 Students
Alamosa Summer	3	14 Students

Students from the sample sites are at different levels of their program of study. These students have used WBI (WebCT) from the onset of their program in one form or another. All students in the program have used WebCT in all classes as a supplement to traditional face-to face instruction. Limited online classes are provided for all students throughout their program. Participants in this study were working on a degree in counseling with an emphasis in community counseling or school counseling. The population for this study at Adams State College is similar demographically to those students at master degree granting institutions providing degrees in community and school counseling and are from accredited CACREP approved programs. The requirements for accreditation by CACREP are provided in the appendices.

Data Collection, Instruments and Procedures

The researcher in this study conducted the data collection procedure at each of the Adams State College sites. ASC program faculty at the various sites disseminated informed consent paperwork and a brief explanation of the study during routine weekly

course delivery two weeks prior to the study. The researcher then traveled to each site to conduct the survey.

First the researcher reviewed the informed consent form and asked participants to sign and date it. The researcher brought extra informed consent forms, although students were given these two weeks prior to the researcher's visit for review. Upon completion of the informed consent form, packets of the surveys were passed out and instructions were given not to open or begin until instructed to do so. The packets included in this order, one attitude scale in Likert form with the demographic questionnaire, and one Gregorc Style Delineator inventory. Demographic information was placed at the end of the survey packet since previous research has shown that participants are more likely to complete this information if a majority of the survey has already been completed (Patten, 2001). Once the survey packet had been passed out to all participants, the researcher asked the participants to open the first survey and complete it. Once the attitude survey was completed, it was then placed in the enclosed envelope and the participants were asked to wait for further instructions from the researcher. Further instructions were given when all attitude surveys were completed and stored in the provided envelope. Once all the surveys were complete, instructions for completing the Gregorc Style Delineator were given and participants were then asked to open the Style Delineator and begin. This assessment took no more than five minutes from the time the survey has begun until it is scored. All participants were asked to remain silent until all assessments were completed to avoid disrupting the process for those not finished, as this could have affected the results of the survey. Upon completion of the Gregorc Style Delineator participants were asked to complete the process by filling out the demographic questionnaire. Participants

were asked to record their scores on the Style Delineator score sheet provided on the questionnaire worksheet. All material except for the Gregorc Style Delineator were placed in the envelope and sealed by the participant. The researcher then asked the participants to place the envelope in the provided box at the front of the room. Once the survey procedure was completed and the study has concluded, the researcher spent the rest of the time discussing and interpreting the Gregorc Style Delineator with participants. This process is not a part of the study but was required to help participants understand their scores as outlined by the Gregorc Institute for Good Practice (Gregorc, 1982).

Based on the recommendations of the Human Research Committee and to make sure that all possibilities of research bias are eliminated during the data collection process the following steps were taken. First, data was collected during class time in the spring semester. In order to eliminate the power of the instructor of record and maintain anonymity for participants, during the data collection process, instructors were asked to not participate or to be present. Second, during the data collection process, the researcher conducted the study and presented instructions from the front of the classroom. After the instructions were given the researcher stayed in the front of the room making no attempt to interact with participants unless general process questions were asked. If individual questions were asked, the researcher required the participant to come to the front of the room to eliminate the researcher from walking through the participant's area. Third, once the assessment process was complete the researcher had the participants place the sealed manila envelope in a box at the front of the room while the research kept a reasonable distance away to maintain anonymity of participants. Fourth, the researcher then brought

the sealed completed surveys to a graduate assistant familiar with SPSS to score and to input the raw data. The researcher went as far as using a graduate assistant who had no connection with the WebCT administration to eliminate any possibility of bias. Finally, once the raw data was entered into SPSS, the research then stepped in and began calculating and answering the research questions.

Measurement Instruments

The first instrument used in this study was the Web-based Instruction Attitude Scale (WBIAS). Sanders and Morrison-Shetlar (2001) developed this scale to survey Biology student's attitudes toward using WBI. The WBIAS is a 19-item Likert scale that presents equal numbers of positive and negative statements about using WBI. The reliability of this scale is .78, and was reviewed for content validity (Sanders & Morrison-Shetlar, 2001). Of the 19 questions, seven are demographic in nature. Twelve questions were Likert, asking participants to strongly agree, agree, neutral, disagree, or strongly disagree. The response "strongly agree" is assigned a score of five and strongly disagree will score one. All negative items were reversed to give an accurate score for attitude for each student.

The second survey to be used in this study is the Gregorc Style Delineator. This learning style preference tool consists of 10 sets of words that the participant must rank order from four (most descriptive of the person) to one (less descriptive of the person). The overall assessment takes approximately three to five minutes to complete and is designed to be self-scored.

Two aspects of validity are applicable to the Gregorc. The first is construct validity in which the Gregorc focuses on learning style characteristics of individuals.

These characteristics are identified by four constructs. These constructs are (1) Concrete Sequential, (2) Abstract Sequential, (3) Abstract Random, and (4) Concrete Random. Three approaches are used to assure the construct validity of the four constructs (Gregorc, 1982). The first approach develops an operational definition that reflects the structure of the instrument. The second approach presents a theoretical definition and the third approach is empirical, which tests the internal consistency of the constructs (see Appendix B for construct definitions).

The second aspect of validity is predictive validity. The style delineator describes the degree to which an individual sees himself/herself in relationship to the four constructs (Gregorc, 1982). An individual can produce both high and low scores in one of the four constructs. The theory suggests that the specific characteristics can be attributed to that individual. However, the attributes of individuals who score high on a particular construct can be used as criteria for testing the predictive validity. The purpose of the Gregorc Style Delineator is to predict the characteristic attribute of the individual. Nunnally (cited in Gregorc, 1980) stated that "Predictive validity is at issue when the purpose is to use an instrument to estimate some important form of behavior that is external to the measuring instrument itself, the latter being referred to as the criterion (p.100)."

To determine reliability and validity, Gregorc (1982) conducted two studies. The first study tested for reliability of the Style Delineator. In this study 110 adults took the Gregorc Style Delineator on two occasions ranging from six hours to eight weeks apart. The test was administered according to the instructions on both occasions. A standardized alpha coefficient was calculated for each of the four constructs in each of the two tests

and exhibited strong reliability. The following table shows the reliability coefficients for the two tests.

Table 3.1

Gregorc Style Delineator Reliability Coefficients (N=110)

	Internal Consistency						Reliability	
	First Test			Second Test			Correlation Between First Test & Second Test	
Scale	*M*	*SD*	Standardized Alpha	*M*	*SD*	Standardized Alpha	*r*	*p*<
Concrete Sequential	28.6	11.1	0.92	29.2	10.9	0.92	0.85	0.001
Abstract Sequential	27.4	10.5	0.89	27.5	11.9	0.92	0.87	0.001
Abstract Random	29.1	12.0	0.93	29.5	11.4	0.92	0.88	0.001
Concrete Random	27.9	11.6	0.91	28.2	11.5	0.91	0.87	0.001

The purpose of study two was to investigate the predicted validity of the Style Delineator. In this study, 110 adults were administered the Gregorc Style Delineator as well as a list of 40 selected characteristics that were theoretically based from the Gregorc Delineator. Both instruments were administered at the same time. The results of this study show medium to high predictor validity. The Style Delineator shows an $r = 0.70$ (N = 110) p < = 0.001 for Concrete Sequential, $r = 0.76$ (N = 110) $p < = 0.001$ for Abstract Sequential, $r = 0.60$ (N=110) $p < = 0.001$ for Abstract Random and $r = 0.68$ (N=110) $p < = 0.001$ for Concrete Random.

The reliability and validity of the Gregorc Style Delineator are strong based on the alpha coefficients presented in the two studies (Gregorc, 1985).

Data Analysis

The null hypotheses being tested in this study were:

1. There would be no difference in the frequency of learning styles for Counselor Education Students.
2. There would be no differences among student learning style in regard to student's attitude toward using web-based instruction.
3. There would be no differences among student age in regard to student's attitude toward using web-based instruction.
4. There would be no differences among student ethnicity in regard to student's attitude toward using web-based instruction.
5. There would be no differences between student genders in regard to student's attitude toward using web-based instruction.
6. There would be no differences between student program major in regard to student's attitude toward using web-based instruction.
7. There would be no differences among student year in the program in regard to student's attitude toward using web-based instruction.
8. There would be no interaction between any two independent variables (student's learning style, age, gender, ethnicity, major, and year in program) in regard to student's attitude toward using web-based instruction.

The data in this study followed that of a between group design. First the researcher analyzed the data from the Gregorc Style delineator using a nominal

categorical dependent variable with four levels of learning style [Concrete Sequential (CS), Abstract/Random (AR), Abstract/Sequential (AS) and Concrete/Random (CR)], to determine the frequency count to see if there was a significant difference in which construct of learning style counseling students fall into. Using a Chi-Square Goodness of Fit design the researcher tested to see if there is a difference in frequency of four categories of learning style.

Three assumptions must be met for a chi-square test of independence to be met. The first is that there is one independent variable, which has at least two levels. Second, there is one dependent variable that is categorical, and third the participants are only in one group which is a between groups design (Gliner & Morgan, 2000).

An attempt was made in this study to look at the differences between multiple independent variables and one dependent variable. The dependent variable in this study was student attitude toward using web-based instruction. Each variable were looked at one at a time to see if there was a significant difference among the various independent variables and the survey of web-based instruction. Six independent variables were tested independently in this study: Gregorc Style Delineator with four levels (CS, AS, AR, CR); age with six levels (<21, 21-25, 26-30, 31-35, 36-40, 41>); ethnicity with two levels (Caucasian, and Hispanic/Other (may be any race); gender with two levels (male and female); program major (school or community counseling); and year in the program (1^{st}, 2^{nd}, 3^{rd} year).

An independent *t*-test was used (with alpha set at .05) to determine significance on categorical data with two levels. A one-way ANOVA was used (with alpha set at .05) to determine significance for each of the independent variables containing more than two

levels. Each of the variables was tested to see if group differences exist on attitudes towards web-based instruction.

Limitations of the Study

As previously mentioned, using Adams State College as the selected population may not be representative of other counseling programs in the theoretical population. The Gregorc Style Delineator produces one of four-style types possible for each individual; the limited number of students in the program and the possibility of one or more types having a small number, may have an affect on the sample size needed for a strong study. This study only surveyed the attitudes of students using web-based instruction in the program rather than how that attitude changes over time. Surveying students using a post-test only design without a control group may not give an accurate result of the outcome of the theoretical population.

Chapter Four

Results

Descriptive Statistics for Sample

Descriptive statistics were calculated to organize and view the data. The sample was composed of Master's degree level counseling students at Adams State College (N=158) from four sites and 10 cohort groups. Tables 4.1a and 4.1b show that the cohort sites included Alamosa (n=42), Durango (n=20), Grand Junction (n=38), Pueblo (n=44), and the Alamosa Summer cohort (n=14). The final research sample included 34 males (22%) and 123 females (78%). Seventy-four percent of the sample was Caucasian (n=117), while the remaining subjects were Hispanic/other (n=40). Of those who reported their relationship status, 55% (n = 86) are married, 31% (n = 49) are single, and 14% (n = 22) are Co-Habitating or Partnered. Thirty-six percent of the sample population was over the age of 40, while the remaining subjects were distributed evenly between the ages of 21 and 40. A majority of the sample (68%) (n =106) work 31-40 hours per week, with 15% (n = 24) working 21-30 hours and 17% (n = 27) working less than 20 hours. The majority of the subjects (n=112) in the study reported a medium amount of experience with computers (71%), while 8% (n =12) reported a small amount of experience and 21% (n = 34) reported that they had a large amount of experience with computers. Equal numbers of participants were distributed between the program tracks (school or community) and their year in the program.

Participants were surveyed at their sites using the Web-Based Instruction Attitude Scale to measure the dependent variable. The dependent variable was student attitude toward WBI. The independent variables included learning style as measured by the Gregorc Style Delineator, gender, ethnicity, age, year in program, and program track.

Table 4.1a

Demographic Characteristics of Cohort Sample (N=158)

Characteristic	*n*	%
Gender		
Male	34	22
Female	123	78
Ethnicity		
Hispanic/Other	40	26
Caucasian	117	74
Age		
21-25	25	15.9
26-30	28	17.8
31-35	29	18.5
36-40	19	12.1
> 40	56	35.7
Relationship Status		
Married	86	55
Single	49	31
Co-Habitating or Partnered	22	14

Table 4.1b

Selected Nominal Variable (Nominal Qualitative Variables) (N=158)

Characteristic	*n*	%
Computer Experience		
Small Amount	12	8
Medium Amount	112	71
Large Amount	34	21
Program Track		
School Counseling	72	46
Community Counseling	86	54
Cohort Site		
Alamosa	42	26.6
Durango	20	12.7
Grand Junction	38	24.1
Pueblo	44	27.8
Summer Alamosa	14	8.9
Year in Program		
1st Year	54	34
2nd Year	53	34
3rd Year	50	32
Hours Worked/Week		
< 20	27	17
21-30	24	15
31-40	106	68

Assessment Instrument

The Web-Based Instructional Attitude Scale (Sanders & Morrison-Shetlar, 2001) consists of 19 questions, seven are demographic in nature. Twelve questions were Likert type asking participants to strongly agree, agree, neutral, disagree, and strongly disagree. The responses strongly agree is assigned a score of five and strongly disagree are score 1. Questions were written both positively and negatively requiring the researcher to reverse negative questions. The lowest possible attitude score was 12 and the highest possible was 60; a higher score indicates a positive attitude toward using web-based instruction. Attitude scores for each question were summed to compute a total attitude score for each student.

Counseling students attitudes toward Web-Based instruction were overall positive. The questions used in the Web-Based Instructional Scale are presented in Table 4.2. The questions are in descending order by mean from highest to lowest. Appendix E lists the questions as they were presented to the participants. It should be noted that the means presented in the table are presented before they were reversed. Table 4.2 shows the mean attitude score was 37.57 with a standard deviation of 7.80. The attitude scores in this study range from 12 to 56, with 79.9% having an attitude score of 35 or higher. Most students were comfortable working with web-based instruction. Students seem to me most comfortable with the technology used in WBI, but seem prefer face-to-face interaction when it came to communicating with peers and instructor.

Table 4.2

Descriptive Means for Web-based Instruction Scale (N = 158)

	Question	*M*	*SD*
1.	I prefer talking to people in person rather than communicating through a chat room on the web.	*3.91	.97
2.	I am comfortable doing coursework through the web.	3.75	1.00
3.	I am confident about completing assignments through the web.	3.72	1.02
4.	I prefer to have the course syllabus handed out to me in class rather than print it from the web.	*3.45	1.00
5.	I would rather look up my grades on the web as opposed to getting them from the professor.	3.27	.86
6.	I enjoy taking quizzes through the web.	3.13	1.05
7.	I would rather take quizzes through the web than on paper in class.	2.99	1.06
8.	I would rather get class notes from the web than have them handed out in class.	2.82	.99
9.	I would prefer not to use Web-Based instruction in my classes.	*2.60	1.08
10.	I would rather post questions on the web through the bulletin board than asking them during class.	2.52	1.06
11.	I am uncomfortable answering questions through the web.	*2.45	1.22
12.	Web-Based instruction scares me.	*2.26	1.18
13.	Overall Student Attitude	37.57	7.80

*Represents the negative questions that were reversed prior to data analysis. The means presented in the table are presented before they were reversed.

Hypothesis Testing

Hypothesis One

The first hypothesis tested in null form was that there would be no difference in the frequency of learning styles for Counselor Education students. A Chi-Square Goodness of Fit Test was conducted to examine whether a counseling student would fall into one particular category of the Gregorc Style Delineator based on the style characteristics. This test revealed that the frequency of counseling students falling into one particular category was significant ($\chi^2 = 17.21$, $df = 3$, $N = 155$, $p = .001$). The final analysis indicated that there are significantly less Abstract Sequential learners in the counseling program than there are in the remaining three constructs. By examining the distribution of scores, (Table 4.3a) there were more Concrete Sequential ($n = 38$) 24.5% of the actual sample population, Concrete Random ($n = 48$) 31% of the actual sample population and Abstract Random ($n = 51$) 32.9% of the actual sample population than Abstract Sequential students ($n = 18$) 11.6% of the actual sample population. Post hoc tests (Table 4.3b) indicated that there was a significant difference ($\alpha = .01$) between Concrete Sequential and Abstract Sequential students ($\chi^2 = 11.16$). Likewise there was a significant difference between Abstract Sequential and Concrete Random students ($\chi^2 = 13.42$) and Abstract Sequential and Abstract Random students ($\chi^2 = 15.05$). With $\alpha = .05$ there was a significant difference between Concrete Sequential and Abstract Random ($\chi^2 = 3.91$) and Concrete Random and Abstract Random students ($\chi^2 = 6.17$). Because there was a significant difference in the frequency of learning styles for counselor education students, the null is rejected.

Table 4.3a

Chi-Square descriptive for Gregorc Style Delineator (Learning Style)

Learning Style	n	%
Concrete Sequential	38	24.5
Abstract Sequential	18	11.6
Concrete Random	48	31.0
Abstract Random	51	32.9

Table 4.3b

Post Hoc Pairwise Comparison

Category	χ^2
CONCRETE SEQUENTIAL - ABSTRACT SEQUENTIAL	11.16**
Concrete Sequential - Concrete Random	2.27
Concrete Sequential - **Abstract Random**	3.91*
Abstract Sequential – **Concrete Random**	13.42**
Abstract Sequential – **Abstract Random**	15.05**
Concrete Random – **Abstract Random**	6.17*

Note: * *CV* of χ^2 for 1 degree of freedom, with α = .05 is 3.841
**CV of χ^2 for 1 degree of freedom, with α = .01 is 6.635
Bold case indicates largest frequency for each pair.

Hypothesis Two

The second hypothesis in null form was that there would be no differences among student learning styles in regard to students' attitude toward using web-based instruction (WBI). A one-way analysis of variance (ANOVA) was conducted. Table 4.4a shows that

there was no statistically significant difference among the four levels of the Gregorc Style Delineator on the attitude of counseling students' use of web-based instruction, F (3,151) = .582, p = .627. Table 4.4b shows that the mean attitude toward using WBI, as measured by the Web-Based Instruction Attitude Scale, was 37.21 for people who are Concrete

Table 4.4a

One-Way Analysis of Variance Summary Table Comparing the Gregorc Style Delineator on the Attitudes of Counseling Students' Use of WBI

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	3	108.76	36.25	.582	.627
Within groups	151	9399.97	62.25		
Total	154	9508.73			

Table 4.4b

Means and Standard Deviation for the Attitude of Counselor Education Students' Use of WBI as a Function of the Gregorc Style Delineator

		Student Attitude	
Gregorc Style Delineator	*n*	*M*	*SD*
CS	38	37.21	8.36
AS	18	38.78	6.97
CR	48	38.29	7.90
AR	51	36.54	7.80
Totals	155	37.50	7.85

Sequential, 38.78 for people who are Abstract Sequential, 38.29 for people who are Concrete Random, and 36.55 for people who are Abstract Random. Because there was no

significant difference between the Gregorc Style Delineator and attitudes of counseling students' use of WBI, the researcher must fail to reject the null hypothesis. Thus, WBI seems to work well regardless of the students learning style.

Hypothesis Three

The third hypothesis in null form was that there would be no differences among student age in regard to students' attitude toward using web-based instruction. A one-way analysis of variance (ANOVA) was conducted. Table 4.5a shows that there was no statistically significant difference among the five levels of age on the attitude of counseling students' use of web-based instruction, F (4,152) = .604, p = .661. Table 4.5b shows that the mean attitude toward using WBI, as measured by the Web-Based Instruction Attitude Scale, was 39.04 for people who are in the 21-25 age range, 38.46 for people who were in the 26-30 age range, 37.06 for people who were in the 31-35 age range, 35.73 for people who were in the 36-40 age range, and 37.39 for people who were over 40. Because there was no significant difference between student age and attitudes of counseling students' use of WBI, the researcher must fail to reject the null hypothesis. Thus, WBI seems to work well for students regardless of their age classification.

Table 4.5a

One-Way Analysis of Variance Summary Table Comparing Age on the Attitudes of Counseling Students use of WBI

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	4	149.26	37.31	.604	.661
Within groups	152	9394.82	61.80		
Total	156	9544.08			

Table 4.5b

Means and Standard Deviation for the Attitude of Counselor Education Students' use of WBI as a Function of Age

		Student Attitude	
Age	*n*	*M*	*SD*
21-25	25	39.04	6.15
26-30	28	38.46	7.19
31-35	29	37.06	7.70
36-40	19	35.73	9.20
> 40	56	37.29	8.42
Total	157	37.58	7.82

Hypothesis Four

The fourth hypothesis in null form was that there would be no differences among student ethnicity in regard to students' attitude toward using web-based instruction (WBI). An independent samples *t* test was performed to compare student ethnicity on students' attitudes. No significant difference was found, t (155) = 1.15, $p = .267$. This indicates that there was no difference in attitude between Caucasian and Hispanic/other groups. Table 4.6 shows that the mean attitude toward using WBI as measured by the Web-Based Instruction Attitude Scale, is 37.17 for Caucasian participants, and 38.77 for those who are Hispanic/Other. Because there was no significant difference between ethnicity and attitudes of counseling students' use of WBI, the researcher must fail to reject the null hypothesis. Thus, WBI seems to work well for students regardless of their ethnicity classification.

Table 4.6

Means and Standard Deviation for the Attitude of Counselor Education Students' use of WBI as a Function of Ethnicity

		Student Attitude	
Ethnicity	*n*	*M*	*SD*
Caucasian	117	37.17	7.46
Hispanic/Other	40	38.77	8.78

Hypothesis Five

The fifth hypothesis in null form was that there would be no differences among student gender in regard to students' attitude toward using web-based instruction (WBI). An independent samples *t* test was performed to compare student ethnicity on students' attitudes. No significant difference was found, $t\ (155) = 1.42, p = .158$. This indicates that there was no difference in attitude between female and male groups. Table 4.7 shows that the mean attitude towards using WBI as measured by the Web-Based Instruction Attitude

Table 4.7

Means and Standard Deviation for the Attitude of Counselor Education Students' use of WBI as a Function of Gender

		Student Attitude	
Gender	*n*	*M*	*SD*
Male	34	39.26	7.34
Female	123	37.12	7.91

Scale, was 39.26 for male participants and 37.12 for female participants. Because there was no significant difference between gender and attitudes of counseling student's use of

WBI, the researcher must fail to reject the null hypothesis. Thus, WBI seems to work well for students regardless of their gender classification.

Hypothesis Six

The sixth hypothesis in null form was that there would be no differences among student program track in regard to students' attitude toward using web-based instruction (WBI). An independent samples *t* test was performed to compare student program track on students' attitudes. No significant difference was found, t (156) = .224, p = .823. This indicates that there was no difference in attitude between school counseling and community counseling groups. Table 4.8 shows that the mean attitude towards using WBI as measured by the Web-Based Instruction Attitude Scale, was 37.72 for School Counseling students and 37.44 for Community Counseling students. Because there was no significant difference between program track and attitudes of counseling students' use of WBI, the researcher must fail to reject the null hypothesis. Thus, WBI seems to work well for students regardless of their program track.

Table 4.8

Means and Standard Deviation for the Attitude of Counselor Education Students' use of WBI as a Function of Program Track

		Student Attitude	
Program Track	*n*	*M*	*SD*
School Counseling	72	37.72	8.21
Community Counseling	86	37.44	7.48

Hypothesis Seven

The seventh hypothesis in null form was that there would be no differences among student year in the program in regard to students' attitude toward using web-based instruction (WBI). A one-way analysis of variance (ANOVA) was conducted. Table 4.9a shows that there was a statistically significant difference among the three levels of year in program on the attitude of counseling students use of web-based instruction, F (2,154) = 13.14, p = .000. Post hoc tests indicate that there was a significant difference between first year second year students' attitudes (p = .000). Likewise, there was a significant mean difference between the attitude of first year students and third year students (p = .001). Analysis of this variable indicates that first year students had lower attitudes toward web-based instruction than either second or third year students. Table 4.9b shows that the mean attitude toward using WBI as measured by the Web-Based Instruction Attitude Scale, was 33.59 for people in their first year in the program, 40.52 for people in their second year in the program, and 38.78 for people in their 3rd year in the program. Because there was a significant difference between year in program and attitudes of counseling students' use of WBI, the null was rejected.

Table 4.9a

One-Way Analysis of Variance Summary Table Comparing Year in Program on the Attitudes of Counseling Students use of WBI

Source	*df*	*SS*	*MS*	*F*	*p*
Between groups	2	1391.26	695.63	13.14	.000
Within groups	154	8152.82	52.94		
Total	156	9544.08			

Table 4.9b

Means and Standard Deviation for the Attitude of Counselor Education Students' use of WBI as a Function of Year in Program

		Student Attitude	
Year in Program	*n*	*M*	*SD*
1st Year	54	33.59	8.66
2nd Year	53	40.52	5.40
3rd Year	50	38.78	7.35
Totals	157	37.58	7.82

Hypothesis Eight

The eighth hypothesis in null form was there would be no interaction between any two independent variables (student's learning style, age, gender, ethnicity, major, and year in program) in regard to student's attitude toward using web-based instruction. A two-way factorial ANOVA tested each variable to determine interaction with student attitude toward web-based instruction as the dependent variable. After testing each variable, three interactions resulted in significance. Significant interactions were between gender and ethnicity, gender and year in program, and gender and hours worked.

Student attitude as a function of gender and ethnicity. Table 4.10a shows the means and standard deviations for the levels of gender by ethnicity. Table 4.10b shows that there was a significant interaction between gender and ethnicity on student attitude toward using web-based instruction, $F(1,153) = 6.47, p = .012$. Hispanic/Other males had a more positive attitude toward using web-based instruction by approximately 6 points. Eta for the interaction between gender and ethnicity in this sample was .202,

which according to Cohen (1988) as cited by Morgan, Griego, & Gloeckner (2001) is a small effect. Looking at the main effect of gender, there was a significant difference between the genders on student attitude, $F(1,153) = 4.16$, $p = .043$. The main affect in

Table 4.10a

Means, Standard Deviations, and n for Student Attitude toward using Web-Based Instruction as a Function of Gender and Ethnicity

	Males			Females			Total	
Ethnicity	*n*	*M*	*SD*	*n*	*M*	*SD*	*M*	*SD*
Caucasian	21	36.52	7.6	96	37.32	7.5	37.18	7.5
Hispanic/Other	13	43.70	4.5	27	36.40	9.4	38.78	8.8
Total	34	39.26	7.3	123	37.12	7.9	37.58	7.8

Table 4.10b

Two-Way Analysis of Variance for Student Attitude Toward using Web-Based Instruction as a Function of Gender and Ethnicity

Variable and Source	*df*	*MS*	*F*	η^2
Student Attitude				
Gender	1	244.573	4.162*	.026
Ethnicity	1	227.330	3.868	.025
Gender x Ethnicity	1	379.958	6.465*	.041
Error	153	58.768		

*$p < .05$

the sample showed that males had a better overall attitude toward using web-based instruction than females. Eta for gender was about .161, which according to Cohen

(1988) as cited by Morgan, Griego, & Gloeckner (2001) was a small effect. Because there was a significant difference between the interactions of student attitude as a function of gender and ethnicity, the null was rejected.

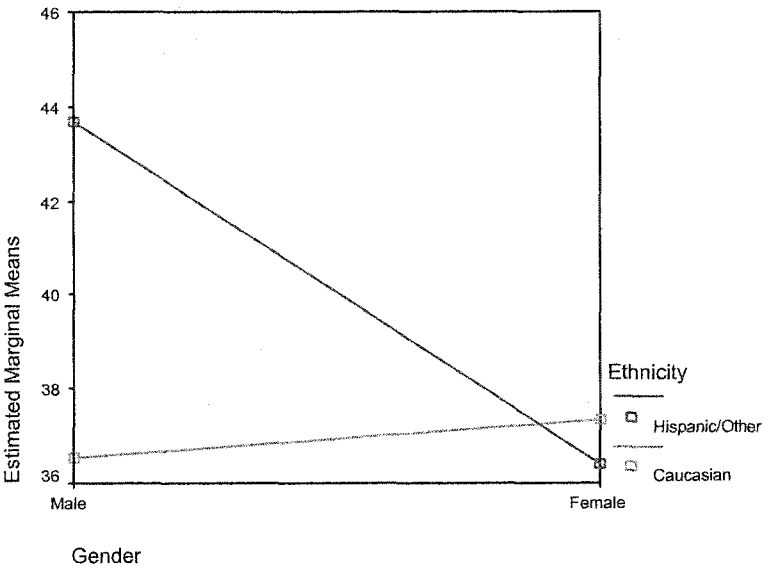

Figure 4.1. Means plots between the interactions of student attitude as a function of gender and ethnicity.

Student attitude as a function of gender and year in program. Table 4.11a shows the means and standard deviations for the levels of gender by year in program. Table 4.11b shows that there was a significant interaction between gender and year in program on student attitude toward using web-based instruction, $F(2,151) = 4.85, p = .009$. In this study, female students in their 1st year had the least positive attitude toward using web-based instruction. Eta for the interaction between gender and year in program in this sample was .244, which according to Cohen (1988) as cited by Morgan, Griego, & Gloeckner (2001) is a small effect. Looking at the main effect of year in program, there was a significant difference between the year in program on student attitude, $F(2,151) = 3.16, p = .045$. The main affect in the sample shows that 1st year students had a least

positive overall attitude toward using web-based instruction than 2nd and 3rd year students. Eta for year in program was about .20, which according to Cohen (1988) as cited by Morgan, Griego, & Gloeckner (2001) is a small effect. Because there was a significant difference between the interactions of student attitude as a function of gender and year in program, the null was rejected.

Table 4.11a

Means, Standard Deviations, and n for Student Attitude toward using Web-Based Instruction as a Function of Gender and Year in Program

	Males			Females			Total	
Year in Program	*n*	*M*	*SD*	*n*	*M*	*SD*	*M*	*SD*
1st Year	10	40.30	7.8	44	32.06	8.2	33.60	8.7
2nd Year	10	40.70	5.5	43	40.49	5.4	40.52	5.4
3rd Year	14	37.50	8.2	36	39.27	7.1	38.80	7.4
Total	34	39.26	7.3	123	37.12	7.9	37.58	7.8

Table 4.11b

Two-Way Analysis of Variance for Student Attitude Toward Using Web-Based Instruction as a Function of Gender and Year in Program

Variable and Source	*df*	*MS*	*F*	η^2
Student Attitude				
Gender	1	128.715	2.568	.017
Year in Program	2	158.133	3.155*	.040
Gender x Year	2	243.060	4.849*	.060
Error	151	50.122		

*$p < 05$

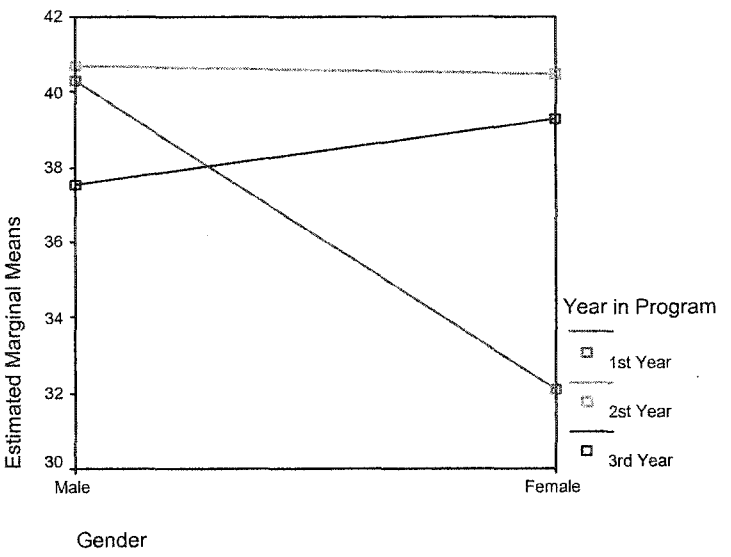

Figure 4.2. Means plots between the interactions of student attitude as a function of gender and year in program.

Student attitude as a function of gender and hours worked. Table 4.12a shows the means and standard deviations for the levels of gender by hours worked. Analysis of this question shows that there was a significant interaction between gender and hours worked on student attitude toward using web-based instruction, $F(2,151) = 3.79, p = .025$. Males working 21-30 hours a week had a more positive attitude toward using web-based instruction. Looking at the main effect of gender, there was a significant difference between the genders on student attitude, $F(1,151) = 5.96, p = .016$. The main affect in the sample shows that males had a better overall attitude toward using web-based instruction than females. Although there was a significant interaction between gender, hours worked, and attitude; there were two cells that were very small (less than 5) and therefore extreme caution should be taken in interpreting these results. Because there was a significant difference between the interactions of student attitude as a function of gender and hours worked, the null was rejected.

Table 4.12a

Means, Standard Deviations, and n for Student Attitude toward using Web-Based Instruction as a Function of Gender and Hours Worked per Week

	Males			Females			Total	
Hours Worked	*n*	*M*	*SD*	*n*	*M*	*SD*	*M*	*SD*
< 20	4	38.25	7.8	23	37.60	7.4	37.70	7.3
21-30	3	50.00	5.6	21	35.43	8.8	37.70	7.3
31-40	27	38.22	6.7	79	37.43	7.9	37.63	7.5
Total	34	39.26	7.3	123	37.12	7.9	37.58	7.8

Two-way analysis of variance was used to test student attitude toward using web-based instruction as a function of all independent variables. Results of the analysis found that 3 interactions between variables produced significant differences. Extreme caution was taken with the results of student attitude as a function of gender and hours worked because of the small number in two cells. Because there was a significant difference between any two independent variables (student's learning style, age, gender, ethnicity, major, and year in program) in regard to attitudes of counseling students' use of WBI, the null was rejected.

Summary

Chi-Square was used to test the frequency of learning styles of counseling students. A significant difference was observed resulting in the null being rejected. A one-way ANOVA was used with an alpha of .05 using independent variables of age, year in program and learning style as measured by the Gregorc Style Delineator. No significant differences were found with student age or Gregorc Style Delineator on

student attitude toward using web-based instruction. A significant difference was reported with year in program resulting in the null being rejected. Independent sample *t*-tests were used to test independent variables of ethnicity, gender and program track. No significant differences were observed in these variables. Two-way ANOVAs were run on all variables to look for interactions. Results of this test resulted in three interactions among variables. The variable that were significant were gender and ethnicity, gender and hours worked, and gender and year in program. Because there was significant differences reported for question eight the null was rejected. All hypotheses (1-6) were retained with the exception of hypothesis seven and eight.

Based on the variables presented in this study, counseling students' needs are being met by program faculty when web-based instruction (WBI) is being used. Student learning style doesn't have an effect on student attitude while using WBI. Age, ethnicity, and gender also have no contributing negative effects on the attitude of counseling students' use of WBI. A student's year in the program however, does influence the attitude of students using WBI. The interaction of variables such as gender on ethnicity, hours worked and the year a student is in the program effects student attitude. Data analysis indicates that student attitude is positive as a result of the interaction between these variables. Chapter V will discuss in detail how these variables affect students' use of web-based instruction in a counseling Master's degree program.

Chapter Five

Discussion

This chapter is divided into four sections. The first section will be a brief review of the purpose of this study. Second the researcher will discuss the summary of findings followed by implications for practice. Finally the chapter will discuss recommendations for future research.

Purpose of this Study

The purpose of this study was to look at what factors influence the attitude of counseling students using web-based instruction (WBI) for online courses, as well as face-to-face courses using online supplemental instruction. This study was designed to look at variables such as students' learning style, age, gender, ethnicity, program track, and year in program to determine if they affect student attitude of using web-based instruction. In addition, a test to determine frequency counts was conducted to determine which construct of learning style counseling students tend to fall into.

The data used in this study were collected from students enrolled in the Master's of Arts in school or community counseling at Adams State College. This CACREP approved 60-hour program is offered at four locations with 10 cohort groups. The groups consisted of a traditional residential full-time program and three off-campus part time programs with a summer program for school personnel. A total of 158 students participated in this study from the five program options. Participants were given the Gregorc Style Delineator, a learning style inventory, to assess their learning style

preference. Participants were also given the Web-based Instruction Attitude Scale (WBIAS) to determine general attitude toward using WBI.

Summary of Findings

Analysis of the data provided answers to the research questions as follows:

Research Question 1: Do counselor education students tend to be dominant in one particular category of the Gregorc Style Delineator?

This research question involved looking at the learning style of the participants to determine if a particular construct of the Gregorc Style Delineator was more prevalent in counseling students. A strong statistical difference was found to exist. Using a Chi-Square Goodness-of-fit test the researcher found that the participants were more likely to be Abstract Random, Concrete Random and Concrete Sequential. The construct of Abstract Sequential (AS) learners fell well below statistically to that of the other four constructs. Gregorc (1982) categorized AS learners as those who prefer highly verbal, logical and analytical approaches to learning. They like solitude, prefer well-organized material, and are highly skeptical. Abstract Sequential learners have trouble picking up subtle nonverbal cues and dislike distractions. They will accept change only after much deliberation and stay away from the "touchy feely" They like written, verbal, and visual instruction. They do well with technology-based instruction like computer-aided and web-based instruction. As a result of Gregorc's assumption of AS learners, it was predicted by the researcher that there would be a smaller number of AS students in a counselor education Master's degree program. As a result of this study, it can be predicted that counseling students will be dominant in one category of the Gregorc Style

Delineator. It is clear by the results of this study that counseling students tend not to be Abstract Sequential learners.

Research Question 2: Are there differences among student learning style in regard to student's attitude toward using web-based instruction?

This question involved looking at counseling students' attitudes towards using WBI based on learning style as assessed by the Gregorc Style Delineator. The researcher wanted to know if a student's learning style affected his/her attitude toward using WBI in a Master's degree counseling program. Based on the data collected there was no significant difference with regards to learning style on student attitudes. The minimal amount of research available discusses learning style and attitude towards WBI; however, Fournier and Schmidt (1995) in their study with voice input technology, stated that student learning styles were not a contributing factor in the performance of students using voice input instruction. Fournier and Schmidt (1995) found that teachers do not need to adopt teaching strategies to meet students' learning style when voice input technology is involved. Although Fournier and Schmidt's study focused on performance, it seems to align with the results of this study in regard to the view that learning style is not a factor in providing a positive learning environment when integrating these types of technology. One interesting relationship between this study and the Fournier and Schmidt study is that there were few participants falling into the Abstract Sequential construct.

Students' attitude toward using web-based instruction was positive overall with a mean of 37.56 (SD = 7.79). Abstract Sequential students' mean attitude was a 38.70 the highest of all Gregorc categories. Although there was no significant difference between the four learning styles and their attitude toward using WBI, the higher mean attitude for Abstract Sequential learners is consistent with the preferred characteristic learning

environments that Gregorc (1982) predicted. It should be noted that Gregorc hasn't studied his learning style delineator on web-based instruction, however, based on the individual characteristics of Abstract Sequential learners, individuals in this category would seem to prefer WBI. Abstract Random learners are least favorable toward WBI according to the characteristics outlined by Gregorc, and this was consistent with the mean attitude in this study ($M = 36.54$).

Because there was no significant difference in learning style of counseling students, counseling programs do not need to offer special considerations for one particular learner when using web-based instruction for online and traditional courses using WebCT as supplement instruction. Findings in this study suggest that the faculty and the program as a whole are doing a good job in making attempts to meet students' needs in regard to web-based instruction.

Research Question 3: Are there differences among student age in regard to student's attitude toward using web-based instruction?

This research question sought to determine if there were any significant differences between the age of counseling students and their attitude toward web-based instruction. According to van Braak (2001), it is suggested that there may be a significant difference between age of computer users. Older adults were less anxious but were not as confident as younger computer users. This study showed that there is no significant difference between the age of counseling students and their attitude toward web-based instruction. The mean attitude in this study was essentially equivalent among all ages. An interesting point in this study is that a majority of students in the counseling program are in the over 40-age range with a mean attitude of 37.29. This may validate what van Braak

stated that older users tend to be less anxious about using computers. The results of this study seem to show that program faculty are attempting to meet the needs of all age groups when providing web-based instruction.

Research Question 4: Are there differences among student ethnicity in regard to student's attitude toward using web-based Instruction?

This question involved looking at the ethnicity of counseling students and whether there was a difference in student attitude toward web-based instruction. Little research has been conducted in regard to ethnicity and web-based instruction. Most descriptive data has focused on computer usage rather than on attitude and performance. In this study, data collected showed that there was no significant difference in ethnicity and the attitude of counseling students' use of web-based instruction. Demographic data in this study was collected in six categories. Because of the limited numbers in four of the six fields, the researcher combined five fields to make a Hispanic/other category. Between the two tested groups there was a positive overall attitude towards web-based instruction but no significant difference between the two groups. The results of this study showed that ethnicity may not be a factor in the overall attitude of using web-based instruction in a Master's degree-counseling program. Future research should continue to examine whether web-based instruction is affected attitudinally by ethnicity.

Research Question 5: Are there differences between student gender in regard to students' attitude toward using web-based instruction?

This question sought to determine if there was a significant difference between counseling students' gender and their attitude toward using web-based instruction. Some research discusses the difference between males and females in their use of computers

(Sullivan, 2001). Males use computers more for entertainment and games and females for word-processing, communication and problem-solving tasks. Based on this, predictions could be made that females would have a more positive attitude than males while using computers for web-based instruction. In this study, the literature supports the outcome of the data analysis, however, not statistically significant males did showed a slightly higher attitude toward using web-based instruction with a mean of 39.26 while females' attitude was slightly lower with a mean attitude of 37.12. Both males and females in this study showed positive attitudes toward using web-based instruction. It should be noted that 78% of the respondents in the study were female. With a sample size that was more equal, differences could be more aligned with the literature. It should be noted that counseling programs in general tend to enroll more females. Getting an equal *N* would be difficult without having to collect data over time, affecting the validity of such a study. The data collected in this study seems to indicate that program faculty are attempting to meet the needs of both males and females in the counseling program assessed.

Research Question 6: Are there differences among student program track in regard to students' attitude toward using web-based instruction?

This research question sought to determine if there was a significant difference in a counseling student's program track and his/her attitude toward web-based instruction. The data collected in this study indicates that there is no difference in program major and student attitude. The mean difference between the two groups was virtually identical with a mean attitude of 37.72 for school counseling students and 37.44 for community counseling students. The results of this study indicate that program faculty are attempting to meet the needs of counseling students based on their program track.

Research Question 7: Are there differences among student year in the program in regard to students' attitude toward using web-based instruction?

This research question sought to identify the differences between student attitude and whether their year in the program had significance. Based on the data collected in this study there was a strong significant difference in the year in program and the attitude of counseling students' use of web-based instruction. Post hoc analysis indicated that first-year students were the least satisfied with a mean attitude of 33.59. Students in their second year seem to be the most positive about using web-based instruction reporting a mean attitude of 40.52. Third-year students dropped in their views toward web-based instruction slightly from second with a mean attitude of 37.58.

The data in this study indicated that there are factors that affect student attitude outcomes in the first year of a counseling student's experience toward web-based instruction. One factor could be the training that students receive in their first year of the program. In the fall semester, all new counseling students are required to attend a one-day orientation in the first week of school. One component of the orientation is a 2-hour training in the use of WebCT. This training is the first interaction with the technology used for online and supplemental instruction. Students hit the ground running in their first semester as WebCT is used immediately. Students bring a high level of anxiety about using technology in that first semester. Students also begin an intense experiential growth component in the first semester, which creates anxiety. The first year data may be due to the high level of anxiety produced by the use of technology in a traditionally non-technical field, and the intense growth work required in addition to developing counseling skills may have an impact on student attitudes. In the second year of the

program, students begin to feel comfortable with the technology, self-growth and skill development, which may be the reason for the increase in attitude in this year of the program. By the third year, students may tend to feel tired of the use of WebCT and attitudes may begin to fall slightly. Data collected in this study indicate that program faculty need to be cognizant of the factors that may affect a student's attitude toward using web-based instruction and make necessary changes that will create a positive learning environment that will meet students' needs.

Research Question 8: Is there an interaction between any two independent variables (student's learning style, age, gender, ethnicity, major, and year in program) in regard to student's attitude toward using web-based instruction?

This question involved looking at each of the independent variables and whether any two variable had an interaction as they relate to student attitude toward using web-based instruction. Based on the data presented in this study, two-way analysis of variance presented three interactions among variables. The three interactions were between gender and ethnicity, gender and hours worked per week, and gender and year in program.

Student attitude as a function of gender and ethnicity. The first interaction reported was with gender and ethnicity. The data presented showed that there was a significant difference between student attitude toward using web-based (WBI) instruction and gender as it interacts with ethnicity. The results of this study showed that Hispanic/Other males had a higher positive attitude toward using WBI (M = 43.70) than Caucasian males (M = 36.52) as well as both ethnicities of female participants (M= 37.32 for Caucasian/ M = 36.40 for Hispanic/Other).

Factors seem to indicate that Hispanic/Other males seem to have a better attitude toward using web-based instruction. Current literature would support that males tend to

have more positive attitudes toward using computers (AAUW, 2000). Other literature states that the gender gap is closing among the groups and that females would prefer using computers for learning to males (Miller, Schweingruber, & Brandenburg, 2001; Sullivan, 2001). This study supports both claims as it relates to gender. However as it relates to ethnicity, this literature makes the claim that Hispanic and Black computer users have a lower usage rate than other groups. Outcomes of the study within the literature state that it is the income level not the ethnic group that affects computer usage (Latimer, 2001). Little research supports attitudes of ethnicity as it relates to computer use in web-based instruction.

It should be noted that in this study there were 13 total Hispanic/Other participants, which represents 8% of the sample population. If the sample was distributed more evenly among the entire sample population difference may be more representative of a theoretical population. Future research should focus on qualitative data that would examine what factors contribute toward the positive attitudes of Hispanic/Other students. Results of this type of study could offer ideas that could help program faculty meet students' needs when developing WBI course. Although there were significant differences in this study, overall attitudes were positive for both gender groups and all ethnicities. This would conclude that program faculty are attempting to meet the needs of all students as it relates toward web-based instruction.

Student attitude as a function of gender and hours worked per week. The second significant interaction was that gender and hours worked per week affect the attitude of students using web-based instruction. The data collected in this study showed that male students working 21-30 hours per week have a higher positive attitude toward using web-

based instruction (WBI) by an average of 12 attitude points. Males in this study overall showed a higher positive attitude toward using WBI. Current research would support this as the AAUW (2000) reported that males tend to feel more comfortable using computers. Other literature suggests that the divide among usage of computers between men and women is closing the gap (Miller, Schweingruber, & Brandenburg, 2001; Sullivan, 2001). This supports the data in this study as all other gender and hours worked groups had no significant difference among the attitude of using WBI. It should be noted, that the total actual sample population in this study for males working 21-30 hours per week was n = 3, which is only 1% of the total sample population in this study. A more equal sample population among participants could show no interaction among the variable. If the sample was distributed more evenly among the entire population differences might be more representative of a theoretical population.

Although there were significant differences in this study, overall attitudes were positive for both gender and all groups working. This would conclude that program faculty are attempting to meet the needs of all students as it relates toward web-based instruction.

Student attitude as a function of gender and year in program. This question sought to determine if there was any significant interaction between gender and a student's year in the program. The results of this analysis showed that there in fact is a significant interaction between the year in a program and gender. It appears that first year female students have a negative attitude toward using web-based instruction. This negative attitude if considerably different from the rest of the groups by average of eight attitude points which indicates females dislike WBI in their first year. Current literature

seems to support that females would be less likely to use computers (Miller, Schweingruber, & Brandenburg, 2001; Sullivan, 2001). However this contradicts the literature in that females as stated by Sullivan (2001) prefer using computer for WBI because of the flexibility, and the need to balance family and work. With this being the case, females should show a stronger positive attitude towards using web-based instruction. In this study males had an overall positive attitude with a mean attitude of 39.26 for males and 37.58 for females contradicting the literature presented.

Three factors could relate to the strong negative attitude toward WBI in this study. First counseling students are not used to the use of WBI in counselor training. This new medium becomes a shock for students in their first year. Second, in the first semester of a counseling program a tremendous emphasis from program faculty on personal growth results in a lot of self-exploration, growth and vulnerability. As students go through this process the use of WBI may take a back seat to experiential learning. Finally, students are introduced and immersed in WBI in their first semester as program faculty require students to participate as a supplement to their face-to-face classes and in some case participate in full functioning online classes. Participating in WBI and maintaining the demands of the experiential learning environments may not be conducive of a good overall positive attitude in a student's first year of a counseling program.

Understanding the implications as to why females in their first year of the program have a negative attitude toward WBI should be the impetus for future qualitative research. Developing a qualitative study that would specifically focus on why female students have a negative attitude toward WBI could serve to provide valuable information for program faculty. Going beyond focus groups and looking at the phenomenon of what

factors such as academic success, cultural background, and individual behaviors could give directions as to why these students struggle more than others with WBI. If program faculty can determine the factors that lower attitude in the first year of the program, changes can be made to improve every student's attitude toward WBI.

Implications for Practice

The findings in this study in context with the research in this area have important implications on the use of web-based instruction in counseling programs using this medium for online and supplemental instruction. The results of this study indicate that as counseling programs begin to use new technologies for instruction in online classes, special attention needs to take place to meet student's needs.

Although there were no significant differences in most of the variables in this study on the attitude of counseling students, special consideration can help to increase the attitude even more. Although the mean attitude in this study was positive, higher attitude ratings could be achieved if program faculty observes these special considerations. The following should be implemented to help facilitate an increase in student attitude while using web-based instruction in a counseling Master's degree program.

Learning style showed no significance on the attitude of students in this study. With that being said, it is important for program faculty to be aware of the different types of learning preferences and create content for courses that align with the characteristics of each learning style preference. Faculty should also be aware of their own teaching style preference and use those characteristics to match students' learning style.

The results of this study clearly demonstrate that faculty in this program are developing web-based instructional courses that attempt to meet the needs of all students.

The obvious implication is that counseling students can have a rich educational environment while using instructional techniques that fall outside the traditions of counselor education. New integrations of incorporating technology can align with the goals of providing a supportive educational environment. Checking in with the continuing needs of all students should be employed regularly to continue to maintain a positive attitude of counseling students as they embark on these new technologies. Being aware of the characteristics of the students taking these courses and providing the support for success in these courses will create an atmosphere for a positive learning environment.

Training seems to be the major factor in the success and positive attitude of counseling students' use of web-based instruction. In this study a significant difference in the year in a students' program and the outcome of their attitude seems to be an important consideration when providing this type of instruction. Data in this study seem to suggest that a student's anxiety with the technology and the demands of personal self-growth have an impact on his/her attitude toward using this type of medium. Recommendations based on this study would be to provide training for all students in the use of the technology, and provide continued support throughout the program to scaffold the students in the use of these technologies. For example, providing continued support in each course throughout the first semester of coursework may help the students to feel more confident about using WBI Use web-based instruction as a supplement to a traditional face-to-face course to allow for a slow integration into the use of the technology rather than complete immersion. This process will allow for students to focus on other major demands involving personal self-growth and basic skills development

while easing into web-based instruction. This process can allow students to develop positive attitudes toward using new technology. As the fear and anxiety of new technologies is reduced, positive attitude should increase. With proper training, program faculty can provide a positive learning environment for all students.

Implications for Practice at Adams State College

The findings in this study can provide Adams State College with valuable insight into the attitudes of counseling student's use of web-based instruction. Careful considerations of the following implications can facilitate Adams State College in providing strong web-based instruction for online and supplemental instruction. Based on the results in this study, future research to identify what factors students feel are important in an online environment can provide valuable resources to instructors while developing online courses. Using the variables that showed significance in this study and seeking to identify what qualitative factors influence the attitudes of students can help to strengthen the online environment. For example, this study indicates that female first-year students have the least positive attitude of using WBI. Conducting a qualitative research study to identify what factors attribute to negative attitudes could serve in providing a richer online environment for these students. Further research could also identify what characteristics current online courses have based on what students like and don't like could result in the development of best practices in developing online courses. Seeking to identify the characteristics of the courses that have the best course evaluations and trying to develop an understanding of what it is about these courses that students like could also sever Adams State College well.

Although no significance was found between learning style and attitude toward using web-based instruction, the researcher in this study recommends that faculty take the Gregorc Style Delineator to develop an understanding of their teaching style. This study surveyed the general attitudes of web-based instruction and did not seek data on particular course content or individual course satisfaction. Based on the first implication for practice, using that data and understanding teaching style could serve in providing valuable insight into developing rich learning environments for all online courses Seeking ways to align student learning style, characteristics of good course development and teacher learning style will create environments fostering positive attitudes toward web-based instruction.

Adams State College should pay particular attention to training of students in the use of web-based instruction. Currently a shotgun approach is used to familiarize students with the use of the technology during a two-hour session at an all day orientation. These students are inundated with all the required policies and procedures of the counselor education program during this day. A two-hour WebCT training is part of this process. Because of the enormous amount of information provided during the orientation, students may not acquire the knowledge needed to jump into a web-based environment. Special attention should be exercised when providing this information and seek to develop other tools that will help in the training of counseling students. In addition to the orientation training, it is recommended that onsite follow-up training be added during a student's first online supplemental instruction course to ease the stress of a new medium. For those students who are in an online environment who could not make onsite training, other technology such as interactive CD-ROMS could server to ease these students into the

online process. These interactive CD-ROMS could be mini video clip and screen shots that could be viewed time and time again when students are struggling with how to use WebCT.

If careful considerations could be made to develop an understanding of what factors influence students attitudes toward web-based instructions and program faculty are willing to look at the implication presented, strong online environments can be created. If program faculty can understand the factors that influence student attitudes, these considerations can be implemented when developing online and supplemental instructional courses.

Recommendation for Future Research

According to the results of this study, the data supported the belief that Adams State College has developed a strong web-based instructional component to the Master's degree in Counseling. However, because several of the questions in this study were not significant, it is suggested that future research explore alternative aspects to the attitude of students using web-based instruction.

Web-based instruction provides a learning environment for students who cannot or choose not to attend classes in a traditional format. Instructors using web-based instruction develop courses using the knowledge base from experts in the field. When developing WBI, instructors should also employ andragogical considerations. One example is to be cognizant of course content making sure it aligns with the technology as well as meeting the goals of the class and students will strengthen overall views of using WBI. Developing a sense of what students want from these courses is imperative when meeting students' needs. Future research should include qualitative data collection to

assess what students want from web-based instruction. It would be interesting to see if students' perceptions of what is important in a web-based course align with the best practices that are outlined by leaders in the field. Such a study would provide teachers with the characteristics students find most important in web-based courses.

A similar study to this one looking at the attitudes of students using web-based instruction could prove beneficial if additional questions were assessed on the attitude scale. Going beyond the general questions asked in this study could provide program faculty with additional data to develop strong courses. Questions including specific program related information in addition to the general web-based instruction attitude scale could be beneficial for program faculty to understand the needs of students more clearly.

Finally, future research should look at whether attitude changes over time. Developing a study that will assess student attitude and what factors contribute to changes over a period of time, could provide program faculty with valuable data for web-based instructional design. Research could be conducted using control and experimental groups. Researchers could look at what factors contribute to the change in attitude. In addition researchers could use participants beyond one institution and using a random sample could strengthen the results of such a study.

Conclusion

Results from this study suggest that program faculty at Adams State College are meeting the needs of counseling students as they use web-based instruction for their program of study. Research conducted in this study suggests that variables such as student's learning style, age, gender, ethnicity, and major do not affect student attitudes

while using web-based instruction. However, data suggest that the year students are in the program affects how they feel about using the technology. Making changes based on the recommendations can help to improve student attitudes in the first year of the program. Future research should continue to explore what factors contribute to student attitude and what recommendations can be made to continue to meet students' needs. As technology changes and new innovations arise, research needs to continue to assess what factors play a role in student attitudes.

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APPENDICES

APPENDIX A

TECHNICAL COMPETENCIES FOR COUNSELOR EDUCATION STUDENTS: RECOMMENDED GUIDELINES FOR PROGRAM DEVELOPMENT

TECHNICAL COMPETENCIES FOR COUNSELOR EDUCATION STUDENTS: RECOMMENDED GUIDELINES FOR PROGRAM DEVELOPMENT*

ACES Technology Interest Network
(1999)

At the completion of a counselor education program, students should:

1. Be able to use productivity software to develop web pages, group presentations, letters, and reports.
2. Be able to use such audiovisual equipment as video recorders, audio recorders, projection equipment, video conferencing equipment, and playback units.
3. Be able to use computerized statistical packages.
4. Be able to use computerized testing, diagnostic, and career decision-making programs with clients.
5. Be able to use email.
6. Be able to help clients search for various types of counseling-related information via the internet, including information about careers, employment opportunities, educational & training opportunities, financial assistance/scholarships, treatment procedures, and social and personal information.
7. Be able to subscribe, participate in, and sign off counseling related listservs.
8. Be able to access and use counseling related CD-ROM databases.
9. Be knowledgeable of the legal and ethical codes which relate to counseling services via the internet.
10. Be knowledgeable of the strengths and weaknesses of counseling services provided via the internet.
11. Be able to use the internet for finding and using continuing education opportunities in counseling.
12. Be able to evaluate the quality of internet information.

APPENDIX B

GREGORC STYLE DELINEATOR CONSTRUCTS

Gregorc Style Delineator

The specific tool used in the study for determining learning style is the Gregorc Style Delineator. In 1970 Dr. Anthony Gregorc began a phenomenological study focusing on how, what and why individuals learn (Gregorc 1984). Over the next 11 years Gregorc developed a theory, based on his experiences as a teacher, administrator and college professor, which lead to the Gregorc Style Delineator. The Gregorc style delineator is a self-analysis tool designed to aid individuals in understanding how they receive and process information efficiently and economically. This process is based on Mediation Ability Theory, which states that the human mind has the channels through which it receives and expresses information most efficiently and effectively (Gregorc, 1979). According to Gregorc (1982), the term 'mediation abilities' describes a person's capacity to use these channels.

Gregorc noticed that children and adults varied in the means of how they process information. These insights lead to his research and the development of the formalized style inventory. The Gregorc Style Delineator is designed to reveal two types of mediation abilities. The first is the perceptual abilities, Abstractness and Concreteness. One of the two perceptual abilities will emerge as dominate in an individual. Abstractness is the ability to grasp, conceive and visualize data through reason and to emotionally and intuitively register ideas, concepts, drives, desires and spirituality. This quality allows experience that is formless and invisible to the five physical senses, sight, taste, touch, smell and hearing. Concreteness allows individuals to grasp and mentally register data through the direct use of the five senses. This allows an individual to understand what is physical in their concrete world.

The second of the mediation abilities is the ordering abilities. Ordering abilities allow individuals to arrange, systematize, reference, and dispose of information. These order abilities will show themselves in one of two ways, Sequence or Randomness. Sequence is the quality that disposes the mind to grasp information in a linear, step-by-step pre-determined order. Information is gathered, processed and ordered in a chainlike manner. This allows an individual to naturally arrange and sequence information so that it can be expressed in a precise, progressive and logical manner. Randomness allows the mind to grasp and organize information in a nonlinear manner. Large chunks of information can be processed in the mind in a fraction of a second and in any order. This quality allows the individual to deal with numerous amounts of information in a diverse, independent and holistic manner. As a result, individuals can express themselves in a multifaceted and unconventional manner.

Based on his eleven years of phenomenological research, Gregorc found that individuals exhibit evidence of both abstractness/concreteness and sequences/randomness despite race, color, creed or sex (Gregorc, 2001). Taking into account individual differences and the stressors that the environment places on these individuals, dominance of perception and ordering will display itself in one of four ways as a dominance of style. These styles constructs are Concrete Sequential (CS), Abstract/Random (AR), Abstract/Sequential (AS) and Concrete/Random (CR).

The Gregorc Style Delineator uses descriptive words listed in groups of four. For example, a set of words might include sun, moon, star and earth. These words are scored from highest to lowest, highest being the most descriptive of the individual and lowest being the least descriptive. After the ordering of words is complete, the individual self-

scores the inventory to come up with four scores for each of the four constructs. The dominant score shows the individual's dominant style Gregorc style then uses the dominant score to give descriptors of an individual's distinguishable characteristics. There is a broad scope of characteristics for each of the constructs within the Style Delineator and for the purpose of this study; only learner characteristics will be addressed.

Concrete Sequential Learners

Concrete Sequential (CS) learners are able demonstrate the ability to use one or more of their five senses in extraordinary ways. Their memory serves them well to help with detail and to separate facts and data into categories of right/wrong and black/white. The CS learner can take verbal statements and apply them in literal ways, as well as approach and begin tasks without having to know the "big picture" They can also delay gratification until a project is complete. CS learners plan activities well and are good with time on task. They are patient, prudent and practical when it comes to work. These learners need concrete examples that are not theoretical and abstract in nature. They prefer actual experiences to simulated or contrived ones. CS learners prefer structure through clear-cut objectives, organization of environment and specific dates for assignments and test dates. They prefer teachers who maintain the teacher/learner environment and struggle with the concepts of the learner-centered environment. The CS learner lives in an extrinsic world expecting fair grading, gold stars and good-job stickers to facilitate a strong self-concept. As a result they will initiate corrections when errors are made, need little verbal encouragement, and prefer environments that have minimal distractions.

The dominant CS learner dislikes dirty and disorderly physical conditions. They are opposed to discussing strong academic, philosophical and emotional topics. They do not like broken promises, forgetfulness, surprises and having too many options. They become intolerant of those who do not take their assignments seriously and feel that they are being taken for granted in group situations. A dominant CS fears that they may express themselves in an inappropriate manner. Their self-concept is based on doing things right the first time and fear failure through doing things incorrectly. They struggle with major change, chaos and the unknown and fear the loss of security, status and possessions.

These learners want recognition, acceptance, respect, support and protection through honest, consistent and fair teachers. They prefer a curriculum that is straightforward and down to earth with lessons that are practical and logical in manner. The media that a CS prefers are worksheets, manuals, kits, hands-on material, field trips and CAI.

Abstract Sequential

The abstract sequential (AS) learner transcends details to see a pattern and the "big picture." They have an uncanny ability to think on a high level, analyzing synthesizing and evaluating with ease. They have the ability to use historical events for current situations and as a predictive asset. An AS learner uses research effectively to document information in a systematic manner. They use traditional time-proven methods and procedures to hypothesize and solve problems. The AS expects from the learning environment ideas, theories and models that are abstract. They want learning that is sequential, substantive, logical, rational and structured from teachers that are masters of

the course content and strong disciplinarians. The dominant AS wants rewards in the form of excellent grades for high achievement from high academic standards. Minimal distractions are preferred with an emphasis on working alone.

The AS dislikes "touchy-feely" and brainstorming type activities where sentimental thinking, metaphors, spiritual references and emotionality are displayed. Having to talk about how they feel rather than how they think is a struggle for the AS. They feel stifled when having to water down language so that others might understand. AS learners fear committing to relationships and ideas when strong emotional involvement is expected for growth. Their fear deepens when they feel they lose the freedom to contemplate ideas and explore questions with those who do not share their same excitement for a given topic. Being known as a "know-it-all" or nerd creates fear in the AS learner as they feel that they may be alienated or excluded from a group.

The AS learner wants recognition, acceptance, appreciation and praise for their accomplishments from authoritative, objective and intellectually adept teachers. They expect the highest quality curricula with high expectations, quality and a proven scope of sequence. These learners prefer books, lectures, tapes, computers and guided individual study.

Abstract Random Learners

The Abstract Random (AR) learner uses the essence and nature of people, places and things to assimilate learning. They rely on reading body language and emotion to empathize with their environments. They view and relate parts and their relationship to the whole. The AR learner will accept criticism from others if it is presented in a kindly manner. They produce imaginative products through art, music, poetry, film, group work

and personal counseling. The AR learner will always "make lemonade out of lemons." The dominant AR learner expects to have a learning environment that promotes and honors the subjective, affective and abstract worlds. They prefer guide-like friendly teachers who permit students to talk and work together in groups and learn from one another. An AR learner works well in student-centered classrooms using various approaches to learning rather than just one. Approval statements in the form of smiles and warm comments promote positive self-concept in AR learners. They prefer no seating charts with colorful, stimulus rich touchable classrooms.

The AR learner dislikes dogmatic and strictly logical, non-caring, non-spiritual and non-emotional people. Conservative and restrictive environments stifle the creativity of the AR learner. Having to justify and be continually criticized as well as being looked at as "flakey" negatively affects the environment for positive validation of the AR. These learners feel unworthy of love and material support. They fear being isolated and socially rejected. They fear being unable to meet and measure up to academic standards and to be dominated by manipulators and perfectionists. Not being taken seriously for their vivid imaginations and paranormal abilities are struggles that AR learners fear from others within their class environments.

The Dominate AR seeks recognition, acceptance, love and respect from others and wants to feel they belong. They thrive with teachers that are understanding, nurturing, and caring and prefer curriculum that honors their unique views. The AR learner prefers learning media that includes television, movies, group discussions and reflection.

Concrete Random Learners

The Concrete Random (CR) learner uses insight to skip details and find the "big picture." They use their intuition to uncover lies and deception to protect themselves from others. They will risk being different by standing independently with work and projects. CR learners have a strong ability to create new ideas, approaches and ideas. The CR learner will conform to established rules and procedures if they are personally acceptable. These learners function well in unstructured, open-ended activities that offer choice, chance, challenge and change. These learners expect concrete examples and abstract ideas to help launch unconventional thoughts and products. CR learners thrive in environments that have teachers that are open-minded and knowledgeable and serve as facilitators for independent work. For CR learners, the teacher should establish basic requirements and provisions and allow the freedom to experiment beyond them. These CR learners need activities that promote and reward their natural curiosity, creativity and competitiveness. They appreciate environments that are stimulus rich and include interesting people and multiple resources available on-call.

The dominant CR dislikes step-by step cookbook like procedures as well as activities that involve communal work. The CR learner dislikes details, routine procedures, politically correct activities and plans that lack excitement. They do not like being reprimanded by those that they feel are incompetent, hypocritical or stuck in their ways or having their intuitive flashes and insight demeaned. The CR fears being average, mediocre and unnoticed. They struggle with not being able to shine and coming in second in a competition. Being trapped in routine activities soon bores the CR and being governed by restrictive and controlling individuals and groups weighs on their creativity. The dominant CR learner wants to be recognized, appreciated and respected by ethical,

just and genuine teachers who are tolerant and flexible. These individuals do well with learning media such as mini-lectures discussions, games, simulations and independent study.

APPENDIX C

ADAMS STATE COLLEGE

FACT SHEET

ADAMS STATE COLLEGE

ALAMOSA, COLORADO

The College

Adams State College is dedicated to offering a high-quality education with a personal touch. The academic and social atmosphere of the campus allows each student to feel at home. The College has excellent physical facilities. Attractive academic buildings are complemented by a complete and comfortable College Center. The student body is composed of individuals from various ethnic and racial backgrounds. The 2001–02 enrollment was 2,536, including 392 graduate students. Forty percent of the undergraduate students are men. The dignity of each person as an individual is paramount, and equal consideration is extended to all. The close working relationship between students and the members of the faculty and administration is indicative of the importance of the individual at Adams State. At the graduate level, Adams State offers programs leading to the Master of Arts degree in elementary education, guidance and counseling, secondary education, special education/moderate needs (level one), art, and physical education.

Adams State College is accredited by the North Central Association of Colleges and Schools, the National Council for Accreditation of Teacher Education, the Council for Accreditation of Counseling and Related Educational Programs, and the National Association of Schools of Music. The College is an institutional member of the American Council on Education and the American Association of Colleges for Teacher Education. It is approved by the American Association of University Women. Adams State is also a member of the North Central Conference on Summer Schools, the Midwestern Association of Graduate Schools, the Association of Collegiate Business Schools and Programs, and the American Assembly of Collegiate Schools of Business.

Location

The College is located in the city of Alamosa, which has a population of approximately 9,000. Alamosa is in the center of the San Luis Valley, about 220 miles south and slightly west of Denver. The city is located at the junction of U.S. Highways 160 and 285 on the route of the Old Navajo Trail. Both bus and airline services are available to and from Alamosa. The College is located close to the art centers at Taos and Santa Fe and near excellent recreational opportunities for hiking, mountain climbing, rafting, fishing, and hunting. The Wolf Creek ski area is within an hour's drive of the campus. The San Luis Valley is almost level and is larger than the state of Connecticut. It is surrounded by ranges of mountains that rise more than 6,500 feet above the elevation of Alamosa, which is 7,500 feet above sea level. In the beautiful Sangre de Cristo range to the east, majestic Mount Blanca towers 14,363 feet above sea level. This mountain is nearly equaled in height and is rivaled in beauty by the rugged Crestone Peak and Crestone needles in the same range. The Continental Divide, winding through the San Juan mountain range, is the western boundary of the valley. The floor of the valley is occupied by fertile grain and vegetable farms and extensive grazing lands. Through the center of the valley flows the Rio Grande del Norte.

Majors and Degrees

Bachelor of Arts or Bachelor of Science degrees are awarded in art (emphasis in art education, art history, ceramics, design, drawing, fiber, metalsmithing, painting, photography, printmaking, sculpture, or water media), biology (emphasis required in botany, molecular cell biology, science education, or wildlife), business administration (emphasis required in accounting, advertising, business education, economics, finance, general business, management, management information systems, marketing, office management, pre–international business, or small business), chemistry (emphasis in allied health or science education), elementary education licensure, English (emphasis required in communications: print/radio, liberal arts, or secondary teacher licensure), exercise physiology and leisure science (emphasis in athletic training, coaching, sport and exercise management, or teacher licensure), geology (emphasis in earth science or environmental science), history/government (emphasis in history, government, or social studies education), mathematics (emphasis in computer science or math education), music (emphasis in music education, K–12 or secondary, or performance), physics (emphasis in science education), psychology, selected studies (emphasis in liberal arts), sociology (emphasis in criminology, general sociology, and social welfare), Spanish (emphasis in foreign language for secondary teacher licensure), and speech/theater. Associate of Arts degree programs are also available. Pre-professional studies are offered in architectural engineering, dentistry, engineering, law, medicine, nursing, optometry, osteopathy, pharmacy, physical therapy, and veterinary medicine.

Academic Program

The academic year is divided into fall and spring semesters. Normally, the baccalaureate degree is earned in eight semesters, while the Associate of Arts degree is earned in four. The associate degree is conferred

upon completion of an approved curriculum with a total of 60 hours of academic credit and, in some A.A. programs, 2 additional hours of credit in physical education activities. The Bachelor of Arts or Bachelor of Science degree is conferred upon completion of an approved curriculum with a total of 120 hours of academic credit plus 2 to 4 semester hours of credit in physical education activities. A minimum cumulative scholastic average of 2.0 must be earned in all courses taken at Adams State College for the A.A., B.S., and B.A degrees in all areas except teacher education, for which a minimum cumulative grade point average of 2.75 must be earned in all work attempted. All requirements of the general education courses and the major must be satisfied. Students transferring from a two-year college must earn at least 60 additional semester hours to graduate from Adams State College with a bachelor's degree. Opportunities are available for independent study, special-topics courses, and discussion groups on current issues.

Off-Campus Arrangements
A number of low-cost tours to nearby points of historical, archaeological, and ethnological interest are arranged by the College, usually in the spring and summer months.

Academic Facilities
The library, which serves as a government depository, has 139,916 books, 37,265 bound periodicals, 389,840 government documents, 693,208 ERIC microfiche, and 2,119 other non book items. A state-of-the-art science and mathematics building opened in 1998. A new art building opened in fall 2000 and a new theater building opened fall 2001.

Costs
For the 2002–03 academic year, the approximate comprehensive cost of tuition, fees, room, and board for residence hall students who are Colorado residents is $8200. For nonresident students, the approximate cost is $13,600. Married student housing units, with utilities furnished, are available at about $375 per month.

Financial Aid
Opportunities for financial aid are provided through scholarships, grants, loan funds, and part-time employment. Entering freshmen may gain consideration for all types of financial aid by completing the Free Application for Federal Student Aid and submitting it by March 1 of the year of expected fall enrollment.
All undergraduate students are also encouraged to apply for a Federal Pell Grant Scholarships (entitled National Scholarships) are available for nonresidents of Colorado who reside in Adams State residence halls. The value of each of these scholarships is one half the cost of nonresident tuition for one year (approximately $3300). To be eligible for one of these scholarships, an entering freshman must have ranked in the top third of his or her high school graduating class or ranked in the top third on the ACT or SAT I (national norms for ACT composite or SAT I combined scores). Transfer students may qualify for the scholarship if they have maintained a GPA of 2.5 or higher for 12 or more semester hours of academic credit.

Faculty
Adams State College has 101 full-time faculty members. Of these, 90 hold a doctorate and 11, a master's degree. Faculty members have received degrees from more than 100 colleges and universities. In addition to carrying out their teaching assignments, faculty members serve as counselors and advisers and as members of many committees.

Student Government
Each student at Adams State College becomes a member of the Associated Students and Faculty organization upon registration. The organization was founded to promote cooperation between students and faculty members of the College. The general social life, social programs, and other student activities are directed by this organization. Elected officers and representatives of the student body and elected faculty members form the Associated Students and Faculty Senate, which regulates matters pertaining to student life.

Admission Requirements
Applicants to a bachelor's degree program should meet the following criteria: a class rank in the upper two thirds of their high school graduating class or a grade point average of at least 2.0 and a composite ACT score of at least 21 or a combined 970 on SAT I scores. Students ranking in the lower third of their high school graduating class and who have less than a 2.0 average may be considered for admission to the A.A. degree program under the condition that they may be required to register for remedial classes. Upon successful completion of at least one semester of academic work at Adams State College with a minimum 2.0 grade point average, an A.A. student may transfer to the

baccalaureate degree program. Prospective transfer students must have at least a C (2.0) average to be unconditionally accepted for admission to Adams State College. Those not meeting this criterion are considered individually. In the case of repeated courses, honor points for grade point averages are compiled on the basis of performance in the repeat.

Application and Information
Applications for admission to Adams State should be completed well in advance of the beginning of the semester to which admission is sought. Applications received less than thirty days prior to the beginning of a semester may cause a delay in registration. Freshman applicants must submit the application for undergraduate admission to Colorado collegiate institutions, which is available from most Colorado high school counselors or from the Adams State College Admissions Office. The freshman applicant should submit this completed application along with a nonrefundable $20 application fee and have his or her high school mail a copy of the high school transcript directly to the Admissions Office at Adams State. The student should also submit ACT or SAT I scores to the Admissions Office. Transfer applicants must also submit the application for undergraduate admission to Colorado collegiate institutions and a nonrefundable $20 application fee. In addition, the student must request that all colleges previously attended forward transcripts to support the student's request for admission. If the student has completed fewer than 12 semester hours of credit, he or she must also submit an official high school transcript and ACT or SAT I scores. Application forms, financial aid forms, and other information are mailed upon request. Inquiries should be made to: Admissions Office

Adams State College
Alamosa, Colorado 81102
Telephone: 719-587-7712
800-824-6494 (toll-free)
Fax: 719-587-7522
E-mail: ascadmit@adams.edu
World Wide Web: http://www.adams.edu
The Rex Activity Center on the campus of Adams State College.

Master of Arts in Counseling

Department of Counselor Education

Our Counseling Program

The Department of Psychology & Counselor Education offers an M.A. in Counseling with specializations in School or Community Counseling. Our program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), the National Council for Accreditation of Teacher Education (NCATE), and the Colorado Department of Education. The Adams State College Counselor Education Program faculty and staff are committed to excellence in education. We were awarded the Program of Excellence citation by the State of Colorado in 2000. Our commitment to excellence is reflected in our focus on individual student growth and development, the use of advanced technology in teaching, and our CACREP accreditation.

Program of Excellence Citation by the State of Colorado

ASC's Counselor Education Program received the State's highest honor when it was designated a Colorado Program of Excellence by the Colorado Commission on Higher Education. This honor recognizes programs that excel and demonstrate a continuing commitment to outstanding performance. Ours is the only Counselor Education program in the state to receive this designation.

Focus on individual student growth
As a faculty we are committed to developing skilled, insightful, ethical and multi-culturally competent counselors. Each of our classes contain a self-exploration component designed to foster individual growth.

Individual and group supervision during our experiential classes focuses on professional and personal growth of students from novice to skilled entry-level counselor.

Use of advanced technology in teaching

Technology is used throughout the program to facilitate learning. Faculty use innovative technologies such as web-based instruction, digital video, Power Point presentations, and computer bulletin boards to deepen students understanding. Students must have access to a computer with Internet capabilities throughout their program.

CACREP Accreditation

ASC's Counselor Education Program has been CACREP accredited since 1995. We meet or exceed the high standards set by CACREP for graduate counseling programs through our low ratio of students to faculty (1 to 10), significant number of supervised experiential courses (5), and faculty commitment to use of the latest research and techniques in counseling and counselor education as evidenced by consistent involvement in professional leadership, presentation, and publication at the State and national level.

The Master of Arts degree in Counseling is a 60 credit hour program. Students have several options for completion of the degree. We offer three on-campus formats: the full-time, part-time evening, and summer-only, as well as the off-campus format offered in communities throughout Southern Colorado.

Our program is designed to provide the human relations and counseling skills necessary to become a professional counselor. Our program is based on four key areas necessary to develop mature and professionally competent counselors:

(1) personal growth,
(2) development of a broad knowledge of counseling theory & research,
(3) development of individual & group counseling skills
(4) knowledge of community resources

All of our programs are offered in the cohort-model. Students begin the program as a group and enroll in a prescribed set of courses throughout their tenure at ASC. Cohorts can assist students in developing peer mentor relationships that provide motivation, challenge, and support throughout the education process.

Counseling Program Formats:

On-Campus Full-Time

This program is for the full time student. Students begin this program in the fall semester and complete the program through 5 consecutive semesters, including summer.

On-Campus Part-Time

This program is for the working professional interested in attending classes part-time during evenings and weekends on the ASC Alamosa campus. Part-time students complete the M.A. degree in three years.

On-Campus Summer-Only

The summer-only program is delivered on ASC's campus in Alamosa and allows a student to complete the program in four years through three intensive summer sessions plus three subsequent Fall and Spring sessions. Internet courses are offered during the fall and spring semesters so that students may complete a portion of the academic course work away from campus.

Off-Campus

Students may attend one of the off-campus sites where ASC offers the Counseling Program. These programs are specially designed to meet the needs of working professionals. All courses are delivered evenings, weekends, or via the Internet. Currently, we have cohort groups in Pueblo, Durango, and Grand Junction.

State Licensure

The **School Counseling** track prepares students for the Colorado K-12 School Counseling license through didactic and experiential courses. Graduates from the School Counseling track work in public and private

elementary and secondary schools throughout Colorado. The **Community Counseling** track prepares students to work in community mental health settings such as crisis centers, outpatient mental health clinics, hospitals and residential treatment centers. The didactic and experiential courses in the Community Counseling track fulfill the educational requirements for the Licensed Professional Counselor (LPC) in Colorado.

Please call the **Department of Psychology and Counselor Education** at Adams State College for more information regarding beginning times for new cohort groups at these sites. You can reach Dr. Susan Varhely, coordinator of the Counselor Education program at (719) 587-7626 or scvarhel@adams.edu.

For more information and application, contact:
Department of Psychology & Counselor Education
Adams State College
Alamosa, CO 81102
Phone: 719-587-7626
http://counselored.adams.edu
Email: scvarhel@adams.edu

APPENDIX D

ADAMS STATE COLLEGE'S

WEB-BASED INSTRUCTION

Adams State College's Web-Based Instruction

Online courses at Adams State College are complete, self-contained courses where instructors deliver the entire course via the Internet using a course management system called (CMS) WebCT. The course syllabus, content modules and assignments are delivered using WebCT. These courses run the entire semester and coincide with the college's academic calendar. Supplemental courses are courses that use WebCT's tools to supplement the face-to-face interaction of the traditional classroom. One problem with the traditional classroom is that one or two students may dominate the discussions and question answering. Supplemental course delivery, however, allows for total participation by all students in the course (Goodwin, 1993). Every course offered in the counseling program uses WebCT to supplement the face-to-face interaction. Every student entering the counseling program is required to participate in a two-hour training session in the orientation of WebCT. The training occurs in the student's first semester of study.

The School of Education and Graduate Studies at ASC began using course management systems (CMS) software for online and distance programs in the fall of 1997. The first complete online course was created in the fall of 1997 and administered by Jones International University's E-Education. By the end of the academic year, five online courses were developed using E-Education. E-Education was the college's official CMS until the summer of 1998 when WebCT, an experimental CMS for the college, replaced all online and supplemental online course management. Online and supplemental courses have continued to grow steadily for the past 6 years. Currently there are a total of 139 classes and 2821 student seats (a seat is a student registered for a

class) using WebCT as a fully online course or as a supplement to a traditional classroom. In the counseling program there are 37 courses using WebCT and 674 seats being used.

WebCT and its use at Adams State College

Adams State College uses WebCT for instruction in Graduate Studies and Business. In the Masters in Counseling degree program, WebCT is used to deliver full online courses and as a supplement in all courses not delivered online. WebCT has many tools in its interface for course delivery in order to promote good principles of teaching. Good principle for teaching have been outlined by Chikering and Gamon (1987), and focuses on creating an environment to allow instructors and students the opportunity for active learning, rapid feedback and incorporating diverse learning styles into instruction. Using these principles and understanding the needs for instructors and students, a template for all courses in Counselor Education was created using only those tools felt imperative to foster learning in a counseling program. These tools, which will be discussed below, include a syllabus, bulletin board, private mail, calendar, chat room, content modules, library information page and quizzes and surveys.

- Syllabus – This tool is used to convey information regarding the class outline, content and requirements. It is required for full online courses that a syllabus to be available in WebCT. If WebCT is used as a supplement to a traditional face-to-face course and the instructor will meet with the students on the first day of class, then posting the syllabus is not required, but recommended.
- Bulletin Board (Discussion Tool) – This is the most flexible instructional tool in WebCT. It allows for asynchronous communications among participants in a course, meaning that instructor and students do not have to be online at the same time to

communicate in the course. It allows for small and large groups to communicate and facilitates multiple discussions through topic areas and threading by replying to main topic posted. This tool can be used for announcements, discussions, presentations and peer teaching.

- Private Mail – This tool works the same as a typical web-based email system used in standard electronic communications except that participants cannot email out of the system and others not in the course cannot email in. This is an excellent tool in that it keeps the mail organized within the course rather than using an instructor's standard email for class communications. This tool is used to submit assignments, private communication among participants and instructor feedback.
- Calendar – The calendar tool allows the instructor and students to share assignment due dates, announcements and other information needing to be disseminated in the course. The instructor can allow students to post publicly or privately to the calendar, or the instructor can limit posting to him/herself.
- Chat Room - The chat room is used as a synchronous tool for communicating among participants in a course. Synchronous means that it requires participants to be logged in at the same time in order to communicate. Many students enjoy chat rooms but it can become difficult managing chat rooms when there are more than five people in a room at one time. It is important for the facilitator to develop clear and concise rules for communicating in a chat room, for example using the words "stop" at the end of a statement or "Cont" in the middle of a long statement to signify that there is more to come.

- Modules – This is a page that allows for instructors to post individual pages within a module to organize course content. By creating shorter content pages reduces the amount of continuous pages for one document. or example a module could include an objective, lecture(s), and assignments pages eliminating one long document that would include all of them.
- Library – This is a single page on the WebCT home page containing a letter from the Adams State College Librarian outlining the tools available for all students. The letter includes contact information, and at the bottom all the codes and passwords for students to access all library resources. It should also be noted the librarian has an account in every course added to WebCT. This allows for student to have a convenient way of contacting the librarian for support.
- Quizzes and Surveys – This tool provides a method for traditional objective and subjective testing and surveys. Question types can be multiple choice, short-answer, calculated, matching and essay style. Many instructors may still give major tests such as midterms and finals in the classroom but can use these tools for quizzes and practice.

The WebCT activities that are used with adult learners in a graduate program will foster a learner-centered environment allowing for positive attitudes towards learning. Each of the discussed tools is presented to counseling students in the first semester of their program and they will continue to use them throughout the program in either an online or supplemental fashion. Training and orientation for the tools is provided and required of all students to help facilitate understanding and reduce anxiety towards using WebCT.

APPENDIX E

WEB-BASED INSTRUCTION ATTITUDE SCALE

Web-based instruction attitude scale

Directions: This questionnaire asks for your opinions on Web-Based Instruction. Since opinion is neither right nor wrong, there are no right or wrong answers. Your responses will be anonymous. Do not put your name on this sheet. Your honest reaction will be appreciated.

Answer each of the following items by circling the choice that best represents your opinion. The choices are:

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. **Web-Based instruction scares me.**

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. **I am uncomfortable answering questions through the web.**

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. **I am confident about completing assignments through the web.**

Strongly Agree Agree Neutral Disagree Strongly Disagree

4. **I enjoy taking quizzes through the web**

Strongly Agree Agree Neutral Disagree Strongly Disagree

5. **I prefer talking to people in person rather than communicating through a chat room on the web.**

Strongly Agree Agree Neutral Disagree Strongly Disagree

6. **I would rather post questions on the web through the bulletin board than asking them during class.**

Strongly Agree Agree Neutral Disagree Strongly Disagree

7. I would rather get class notes from the web than have them handed out in class.

Strongly Agree Agree Neutral Disagree Strongly Disagree

8. I prefer to have the course syllabus handed out to me in class rather than print it from the web.

Strongly Agree Agree Neutral Disagree Strongly Disagree

9. I would rather look up my grades on the web as opposed to getting them from the professor.

Strongly Agree Agree Neutral Disagree Strongly Disagree

10. I am comfortable doing coursework through the web.

Strongly Agree Agree Neutral Disagree Strongly Disagree

11. I would prefer not to use Web-Based instruction in my classes.

Strongly Agree Agree Neutral Disagree Strongly Disagree

12. I would rather take quizzes through the web than on paper in class.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Demographics

13 Gender

- ❑ Male
- ❑ Female

14 Race/Ethnicity (Please mark the answer that best fits)

- ❑ Hispanic/Latino
- ❑ African-American
- ❑ Caucasian
- ❑ Asian American
- ❑ Native American
- ❑ Other

15 Age

- ❑ < 21
- ❑ 21 – 25
- ❑ 26 –30
- ❑ 31 – 35
- ❑ 36 – 40
- ❑ 41 >

16 Year in Program

- ❑ 1st year
- ❑ 2nd year
- ❑ 3rd year
- ❑ Graduate

17 Current work hours per week

- ❑ 0 hours/Student
- ❑ < 10 hours
- ❑ 11-20 hours
- ❑ 21-30 hours
- ❑ 31-40 hours

18 Relationship Status

- ❑ Never Married/Single
- ❑ Co-Habiting or Partnered
- ❑ Widowed/Single
- ❑ Married
- ❑ Separated
- ❑ Remarried
- ❑ Divorced/Single

19 Computer Experience

- ❑ No Computer Experience
- ❑ Small amount - ability to be able to sending email
- ❑ Medium amount – proficient in word processing and Internet use
- ❑ Large Amount – proficient in computer applications/familiar with computer applications and programming

20 Program Track

- ❑ School Track
- ❑ Community Track

Your Gregorc Scores (Please record your scores from the Gregorc worksheet)

CS _____

AS _____

CR _____

AR _____

APPENDIX F

CONSENT FORM

COLORADO STATE UNIVERSITY
INFORMED CONSENT TO PARTICIPATE IN A RESEARCH PROJECT

TITLE OF PROJECT: Attitudes of Counseling Students' use of Web-Based Instruction (WebCT) for online and supplemental instruction in a master degree program for Counselors

NAME OF PRINCIPAL INVESTIGATOR: Gene Gloeckner PhD

NAME OF CO-INVESTIGATOR: Mark G. Manzanares

CONTACT NAME AND PHONE NUMBER FOR QUESTIONS/PROBLEMS: Mark G. Manzanares / 719-587-7371

PURPOSE OF THE RESEARCH:

The purpose of this research is to study the attitudes of counseling students using the course management system (WebCT). This study will look at how attitude may be affected by learning style, age, ethnicity, gender program track (major) and year in program

PROCEDURES/METHODS TO BE USED:

The researcher will review the informed consent form and ask you to sign and date it. Upon completion of the informed consent form, a packet of the surveys will be passed out and instructions will be given not to open or begin until instructed to do so. The packet will include, in this order, one attitude scale in Likert form with the demographic questionnaire, and one Learning style inventory (Gregorc Style Delineator) which measures learning style in four constructs within two categories, perception and ordering abilities. The four constructs seek to identify learning style preferences. Example preferences are to work with hands on material, computer, lectures, video instruction and simulations. Once the survey packet has been passed out, you will be asked to open the first survey and complete it. This survey (Attitudes Survey and Demographics) will take approximately 5 minutes to complete. Once the attitude survey is completed, it will then be placed in the enclosed envelope and you will be asked to wait for further instructions from the researcher. Further instructions will be given when all attitude surveys have been completed and stored in the provided envelope. Once all surveys are complete, instructions for completing the Gregorc Style Delineator (learning style inventory) will be given to you. You will then be asked to complete the Style Delineator. This assessment will take no more than five minutes from the time the survey is completed until it is scored. You will be asked to remain silent until all assessments are completed to avoid disrupting the process for those not finished, as this could affect the results of the survey. Upon completion of the Gregorc Style Delineator you will be asked to record your scores on the Style Delineator score sheet provided on the demographics survey. The completed attitude scale and demographic questionnaire are to be placed in the envelope and sealed by you. The researcher will then ask you to place the envelope in the provided box at the front of the room. Once the survey procedure is complete and the study has concluded, the researcher will spend the rest of the time discussing and interpreting the Gregorc Style Delineator with you.

RISKS INHERENT IN THE PROCEDURES:

There are no known risks

It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

BENEFITS:

The benefits of this research will allow program faculty to maintain and develop curriculum to support program goals while providing a rich educational environment. Your participation will give valuable insights as to how faculty can better meet your needs while using the course management system (WebCT) for your program of study.

CONFIDENTIALITY:

The researcher will maintain a high level of confidentiality while conducting this study. A manila envelope will be passed out to participants in a random manner. Enclosed in the envelope is (1) Attitudes survey including demographic information, and (1) Gregorc Style Delineator. You will complete the scale and the Gregorc Style Delineator. Upon completion of the survey, you will place the information back in the envelope and seal it. The researcher will then have you turn the envelope in. No name or identification will be asked of you at any time except for in this consent form which will be turned in separately from your packet.

LIABILITY:

The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Questions about participants' rights may be directed to Celia S. Walker at (970) 491-1563.

PARTICIPATION:

Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing __2__ pages.

_____
Participant name (printed)

_____ _____
Participant signature Date

_____ _____
Witness to signature (project staff) Date

APPENDIX G

CACREP STANDARDS

COUNCIL FOR ACCREDITATION OF COUNSELING AND RELATED EDUCATIONAL PROGRAMS

2001 STANDARDS

Eligibility Requirements

CACREP defines a program as a structured sequence of curricular and clinical experiences for which accreditation is sought. In the context of these standards, "programs" are housed within an "academic unit" *(see Glossary for definition of these terms).* As an example, an institution might have an academic unit that includes both a Community Counseling program and a Mental Health Counseling program.

CACREP recognizes that alternative instruction methods (for example, distance learning) are currently used in many counselor education programs. The following principles apply when evaluating these programs:

a. programs that use alternative instruction methods will be evaluated with the same CACREP Standards for accreditation as programs that employ more traditional methods;

b. accreditation for such programs will be based on their demonstrated compliance with CACREP standards; and

c. programs that use alternative instruction methods are subject to the same level of review as programs that employ more traditional methods.

The CACREP Standards are minimal criteria for the preparation of professional counselors, counselor educators, and student affairs professionals. Applicants seeking accreditation must document how each program meets the standards of Sections I–VI and the appropriate program area standards. **The Board believes that the following requirements must be present before programs are eligible for review.**

1. Entry-level degree programs accepted for review will have a **minimum** of 72 quarter hours or 48 semester hours of graduate studies. Mental Health Counseling and Marital, Couple, and Family Counseling/ Therapy will have a **minimum** of 90 quarter hours or 60 semester hours of graduate studies. Doctoral degree programs accepted for review will have a minimum of 144 quarter hours or 96 semester hours which includes entry-level preparation.

2. The academic unit that oversees the entry-level program(s) will have a minimum of **three** (3) core faculty members whose academic appointments are in counselor education; one of the three members will be designated as the academic unit leader. Doctoral programs will have at least **two** (2) full-time equivalent faculty positions in addition to positions required of entry-level program(s).

3. Curricular experiences and demonstrated knowledge in each of the eight common core areas are required of all students in the program(s) for which accreditation is sought. The common core curricular experiences include the following areas (see, Section II, Standards K. 1–8):

   a. Professional Identity

   b. Social and Cultural Diversity

   c. Human Growth and Development

   d. Career Development

   e. Helping Relationships

   f. Group Work

   g. Assessment

   h. Research and Program Evaluation

4. Programs for which the Board renders accreditation decisions are:

a. Career Counseling

b. College Counseling

c. Community Counseling

d. Gerontological Counseling

e. Marital, Couple, and Family Counseling/Therapy

f. Mental Health Counseling

g. School Counseling

h. Student Affairs

i. Counselor Education and Supervision (doctoral-level only)

Please note that the above listed Program Area Standards are located immediately after Sections I–VI of the Standards. The appropriate Program Area Standards must be addressed for each program for which accreditation is sought.

5. The academic unit is located in and supported by an educational institution accredited by one of the regional or national institutional accrediting bodies recognized by the Council for Higher Education Accreditation (CHEA).

6. The program(s) require(s) supervised experiences, including practicum and internship for all students, as identified *in Section III, Clinical Instruction.*

7. The academic unit must have students currently enrolled in each program area for which accreditation is sought.

8. Programs seeking accreditation must have a comprehensive mission statement (see Section II, Standard A).

INTRODUCTION

The counseling profession evolves in anticipation of and response to societal and other changes in the United States and throughout the world. Counselor Education programs prepare students to be effective in a dynamic world and profession. It is imperative that programs explicitly prepare students to be counselors first and counseling specialists second.

CACREP Standards are written to ensure that students develop a professional counselor identity and also master the knowledge and skills to practice effectively. Graduates of CACREP-accredited programs use their education and preparation as paths to careers in community mental health and human service agencies, educational institutions, and private practice, government, business and industrial settings. However, no professional preparation program is ever complete, and advances in knowledge, skills and technology within the profession require life-long continuing education for counselors as well as monitoring and review of professional standards.

CACREP policy requires periodic review, permitting standards revision, including development of new standards or the elimination of obsolete standards. The curricular experiences required by these revised standards are based on due notice and consultation with the professional community and represent collective and informed judgment about their relevancy and appropriateness.

These standards are not intended to discourage creativity on the part of program faculties. Programs wishing to justify variations from these standards may submit statements of rationale as part of their self-studies. CACREP will determine whether those variations accomplish the outcomes that the standards are designed to ensure.

Section I

THE INSTITUTION

A. The institution in which the academic unit is housed is accredited by a regional or institutional accrediting body that is recognized by the Council for Higher Education Accreditation (CHEA).

B. The current institutional catalogue or bulletin accurately describes the academic unit and each program offered, including admissions criteria, minimum program requirements, matriculation requirements (for example, examinations, academic-standing policies), and financial aid information.

C. The academic unit is clearly identified as part of the institution's graduate offerings and has primary responsibility for the preparation of students in the program. If more than one academic unit has responsibility for the preparation of students in the program, the respective areas of responsibility and the relationships among and between them must be clearly defined.

D. Cooperative relationships exist between the academic unit and other academic units that contribute to the professional preparation of students in the program as well as off-campus professional and community resources.

E. The institution is committed to providing the program with sufficient financial support to ensure continuity, quality, and effectiveness in all of the program's learning environments.

F. The institution provides encouragement and support for program faculty to participate in professional organizations and activities (for example, professional travel, research, and leadership positions).

G. The institution makes available to students in the program personal counseling services provided by professionals other than program faculty and students.

H. Access to library and other learning resources is appropriate for scholarly inquiry, study, and research by program faculty and students.

I. The institution provides technical and financial support to program faculty and students to ensure access to information systems and data analysis for teaching and research.

SECTION II

PROGRAM OBJECTIVES AND CURRICULUM

A. A comprehensive mission statement has been developed that brings the program into focus and concisely describes the program's intent and purpose. The mission statement

1. describes the types of students it serves, its geographic orientation, and the priorities and expectations of the faculty;

2. is the basis for the development of program objectives and curriculum;

3. is published and available to faculty and students; and

4. is reviewed at least once every three (3) years and revised as needed.

B. The program objectives

1. reflect current knowledge and positions from lay and professional groups concerning the counseling and human development needs of a pluralistic society;

2. reflect the present and projected needs of a pluralistic society for which specialized counseling and human development activities have been developed;

3. reflect input from all persons involved in the conduct of the program, including program faculty, current and former students, and personnel in cooperating agencies;

4. are directly related to program activities; and

5. are written so that they can be assessed.

C. Programs in Career Counseling, College Counseling, Community

Counseling, Gerontological Counseling, School Counseling, and Student Affairs are comprised of a minimum of two full academic years, defined as four semesters or six quarters of approved graduate-level study with a minimum of 48-semester credit hours or 72-quarter credit hours required of all students. Programs in Mental Health Counseling and Marital, Couple and Family Counseling/Therapy are comprised of approved graduate-level study with a minimum of 60-semester credit hours or 90-quarter credit hours required of all students.

D. Students actively identify with the counseling profession by participating in professional associations such as the American Counseling Association (ACA), its divisions, branches, and affiliate organizations, and by participating in seminars, workshops, or other activities that contribute to personal and professional growth.

E. Over the course of one academic term, students meet for a minimum of 10 clock hours in a small-group activity approved by the program. This planned group requirement is intended to provide direct experiences as a participant in a small group.

F. Consistent with established institutional due process policy and ACA *Ethical Standards*, when evaluations indicate that a student is not appropriate for the program, faculty should assist in facilitating the student's transition out of the program and, if possible, into a more appropriate area of study.

G. Flexibility is provided within the program's curriculum to accommodate individual differences in student knowledge and competencies.

H. Syllabi are distributed at the beginning of each curricular experience, are available for review by all enrolled or prospective students, and include all of the following:

1. objectives;

2. content areas;

3. required text(s) and/or reading(s);

4. methods of instruction, including a clear description of how content is delivered (e.g., lecture, seminar, supervised practical application, distance learning); and

5. student performance evaluation criteria and procedures.

I. Evidence exists of the use and application of research data among program faculty and students.

J. Each program for which accreditation is sought must show a history of graduates.

K. Curricular experiences and demonstrated knowledge in each of the eight common core areas are required of all students in the program. The eight common core areas follow.

1. PROFESSIONAL IDENTITY - studies that provide an understanding of all of the following aspects of professional functioning:

a. history and philosophy of the counseling profession, including significant factors and events;

b. professional roles, functions, and relationships with other human service providers;

c. technological competence and computer literacy;

d. professional organizations, primarily ACA, its divisions, branches, and affiliates, including membership benefits, activities, services to members, and current emphases;

e. professional credentialing, including certification, licensure, and accreditation practices and standards, and the effects of public policy on these issues;

f. public and private policy processes, including the role of the professional counselor in advocating on behalf of the profession;

g. advocacy processes needed to address institutional and social barriers that impede access, equity, and success for clients; and

h. ethical standards of ACA and related entities, and applications of ethical and legal considerations in professional counseling.

2. SOCIAL AND CULTURAL DIVERSITY - studies that provide an understanding of the cultural context of relationships, issues and trends in a multicultural and diverse society related to such factors as culture, ethnicity, nationality, age, gender, sexual orientation, mental and physical characteristics, education, family values, religious and spiritual values, socioeconomic status and unique characteristics of individuals, couples, families, ethnic groups, and communities including all of the following:

a. multicultural and pluralistic trends, including characteristics and concerns between and within diverse groups nationally and internationally;

b. attitudes, beliefs, understandings, and acculturative experiences, including specific experiential learning activities;

c. individual, couple, family, group, and community strategies for working with diverse populations and ethnic groups;

d. counselors' roles in social justice, advocacy and conflict resolution, cultural self-awareness, the nature of biases, prejudices, processes of intentional and unintentional oppression and discrimination, and other culturally supported behaviors that are detrimental to the growth of the human spirit, mind, or body;

e. theories of multicultural counseling, theories of identity development, and multicultural competencies; and

f. ethical and legal considerations.

3. HUMAN GROWTH AND DEVELOPMENT - studies that provide an understanding of the nature and needs of individuals at all developmental levels, including all of the following:

a. theories of individual and family development and transitions across the life-span;

b. theories of learning and personality development;

c. human behavior including an understanding of developmental crises, disability, exceptional behavior, addictive behavior, psychopathology, and situational and environmental factors that affect both normal and abnormal behavior;

d. strategies for facilitating optimum development over the life-span; and

e. ethical and legal considerations.

4. CAREER DEVELOPMENT - studies that provide an understanding of career development and related life factors, including all of the following:

a. career development theories and decision-making models;

b. career, avocational, educational, occupational and labor market information resources, visual and print media, computer-based career information systems, and other electronic career information systems;

c. career development program planning, organization, implementation, administration, and evaluation;

d. interrelationships among and between work, family, and other life roles and factors including the role of diversity and gender in career development;

e. career and educational planning, placement, follow-up, and evaluation;

f. assessment instruments and techniques that are relevant to career planning and decision making;

g. technology-based career development applications and strategies, including computer-assisted career guidance and information systems and appropriate world-wide web sites;

h. career counseling processes, techniques, and resources, including those applicable to specific populations; and

i. ethical and legal considerations.

5. HELPING RELATIONSHIPS - studies that provide an understanding of counseling and consultation processes, including all of the following:

a. counselor and consultant characteristics and behaviors that influence helping processes including age, gender, and ethnic differences, verbal and nonverbal behaviors and personal characteristics, orientations, and skills;

b. an understanding of essential interviewing and counseling skills so that the student is able to develop a therapeutic relationship, establish appropriate counseling goals, design intervention strategies, evaluate client outcome, and successfully terminate the counselor-client relationship. Studies will also facilitate student self-awareness so that the counselor-client relationship is therapeutic and the counselor maintains appropriate professional boundaries;

c. counseling theories that provide the student with a consistent model(s) to conceptualize client presentation and select appropriate counseling interventions. Student experiences should include an examination of the historical development of counseling theories, an exploration of affective, behavioral, and cognitive theories, and an opportunity to apply the theoretical material to case studies. Students will also be exposed to models of counseling that are consistent with current professional research and practice in the field so that they can begin to develop a personal model of counseling;

d. a systems perspective that provides an understanding of family and other systems theories and major models of family and related interventions. Students will be exposed to a rationale for selecting family and other systems theories as appropriate modalities for family assessment and counseling;

e. a general framework for understanding and practicing. Student experiences should include an examination of the historical development of consultation, an exploration of the stages of consultation and the major models of consultation, and an opportunity to apply the theoretical material to case presentations. Students will begin to develop a personal model of consultation;

f. integration of technological strategies and applications within counseling and consultation processes; and

g. ethical and legal considerations.

6. GROUP WORK - studies that provide both theoretical and experiential understandings of group purpose, development, dynamics, counseling theories, group counseling methods and skills, and other group approaches, including all of the following:

a. principles of group dynamics, including group process components, developmental stage theories, group members' roles and behaviors, and therapeutic factors of group work;

b. group leadership styles and approaches, including characteristics of various types of group leaders and leadership styles;

c. theories of group counseling, including commonalties, distinguishing characteristics, and pertinent research and literature;

d. group counseling methods, including group counselor orientations and behaviors, appropriate selection criteria and methods, and methods of evaluation of effectiveness;

e. approaches used for other types of group work, including task groups, psychoeducational groups, and therapy groups;

f. professional preparation standards for group leaders; and

g. ethical and legal considerations.

7. ASSESSMENT - studies that provide an understanding of individual and group approaches to assessment and evaluation, including all of the following:
   a. historical perspectives concerning the nature and meaning of assessment;
   b. basic concepts of standardized and nonstandardized testing and other assessment techniques including norm-referenced and criterion-referenced assessment, environmental assessment, performance assessment, individual and group test and inventory methods, behavioral observations, and computer-managed and computer-assisted methods;
   c. statistical concepts, including scales of measurement, measures of central tendency, indices of variability, shapes and types of distributions, and correlations;
   d. reliability (i.e., theory of measurement error, models of reliability, and the use of reliability information);
   e. validity (i.e., evidence of validity, types of validity, and the relationship between reliability and validity;
   f. age, gender, sexual orientation, ethnicity, language, disability, culture, spirituality, and other factors related to the assessment and evaluation of individuals, groups, and specific populations;
   g. strategies for selecting, administering, and interpreting assessment and evaluation instruments and techniques in counseling;
   h. an understanding of general principles and methods of case conceptualization, assessment, and/or diagnoses of mental and emotional status; and
   i. ethical and legal considerations.

8. RESEARCH AND PROGRAM EVALUATION - studies that provide an understanding of research methods, statistical analysis, needs assessment, and program evaluation, including all of the following:

   a. the importance of research and opportunities and difficulties in conducting research in the counseling profession,

   b. research methods such as qualitative, quantitative, single-case designs, action research, and outcome-based research;

   c. use of technology and statistical methods in conducting research and program evaluation, assuming basic computer literacy;

   d. principles, models, and applications of needs assessment, program evaluation, and use of findings to effect program modifications;

   e. use of research to improve counseling effectiveness; and

   f. ethical and legal considerations.

Section III

CLINICAL INSTRUCTION

Clinical instruction includes supervised practica and internships that have been completed within a student's program of study. Practicum and internship requirements are considered to be the most critical experience elements in the program. All faculty, including clinical instruction faculty and supervisors, are clearly committed to preparing professional counselors and promoting the development of the student's professional counselor identity.

A. Each regular or adjunct program faculty member who provides individual or group practicum and/or internship supervision must have

   1. a doctoral degree and/or appropriate clinical preparation, preferably from an accredited counselor education program;

   2. relevant professional experience and demonstrated competence in counseling; and

   3. relevant training and supervision experience.

B. Students serving as individual or group practicum supervisors must

   1. have completed counseling practicum and internship experience equivalent to those within an entry-level program;

   2. have completed or are receiving preparation in counseling supervision; and

   3. be supervised by program faculty, with a faculty/student ratio that does not exceed 1:5.

C. A site supervisor must have

   1. a minimum of a master's degree in counseling or a related profession with equivalent qualifications, including appropriate certifications and/or licenses;

   2. a minimum of two (2) years of pertinent professional experience in the program area in which the student is completing clinical instruction; and

   3. knowledge of the program's expectations, requirements, and evaluation procedures for students.

D. A clinical instruction environment, on- or off-campus, is conducive to modeling, demonstration, and training and is available and used by the program. Administrative control of the clinical instruction environment ensures adequate and appropriate access by the faculty and students. The clinical instruction environment includes all of the following:

   1. settings for individual counseling with assured privacy and sufficient space for appropriate equipment (for example, TV monitoring and taping);

   2. settings for small-group work with assured privacy and sufficient space for appropriate equipment;

   3. necessary and appropriate technologies that assist learning, such as audio, video, and telecommunications equipment;

   4. settings with observational and/or other interactive supervision capabilities; and

   5. procedures that ensure that the client's confidentiality and legal rights are protected.

E. Technical assistance for the use and maintenance of audio and videotape and computer equipment is available as well as other forms of communication technology.

F. Orientation, assistance, consultation, and professional development opportunities are provided by counseling *program faculty to site supervisors.*

G. Students must complete supervised practicum experiences that total a minimum of 100 clock hours. The practicum provides for the development of counseling skills under supervision. The student's practicum includes all of the following:

1. 40 hours of direct service with clients, including experience in individual counseling and group work;

2. weekly interaction with an average of one (1) hour per week of individual and/or triadic supervision which occurs regularly over a minimum of one academic term by a program faculty member or a supervisor working under the supervision of a program faculty member;

3. an average of one and one half (1 1/2) hours per week of group supervision that is provided on a regular schedule over the course of the student's practicum by a program faculty member or a supervisor under the *supervision of a program faculty member;* and

4. evaluation of the student's performance throughout the practicum including a formal evaluation after the student completes the practicum.

H. The program requires students to complete a supervised internship of 600 clock hours that is begun after successful completion of the student's practicum (as defined in Standard III.G). The internship provides an opportunity for the student to perform, under supervision, a variety of counseling activities that a professional counselor is expected to perform. The student's internship includes all of the following:

1. 240 hours of direct service with clients appropriate to the program of study;

2. weekly interaction with an average of one (1) hour per week of individual and/or triadic supervision, throughout the internship,(usually performed by the on-site supervisor;)

3. an average of one and one half (1 1/2) hours per week of group supervision provided on a regular schedule throughout the internship, usually performed by a program faculty member;

4. the opportunity for the student to become familiar with a variety of professional activities in addition to direct service (e.g., record keeping, supervision, information and referral, in service and staff meetings);

5. the opportunity for the student to develop program-appropriate audio and/or videotapes of the student's interactions with clients for use in supervision;

6. the opportunity for the student to gain supervised experience in the use of a variety of professional resources such as assessment instruments, technologies, print and non print media, professional literature, and research; and

7. a formal evaluation of the student's performance during the internship by a program faculty member in consultation with the site supervisor.

I. The practicum and internship experiences are tutorial forms of instruction; therefore, when the individual supervision is provided by program faculty, the ratio of 5 students to 1 faculty member is considered equivalent to the teaching of one (1) three-semester hour course. Such a ratio is considered maximum per course.

J. Group supervision for practicum and internship should not exceed 10 students.

K. *Clinical experiences (practicum and internship) should provide opportunities for students to counsel clients who* represent the ethnic and demographic diversity of their community.

L. Students formally evaluate their supervisors and learning experience at the end of their practicum and internship experiences.

M. Programs require students to be covered by professional liability insurance while enrolled or participating in practicum, internship, or other field experiences.

Section IV

FACULTY AND STAFF

A. The counselor education academic unit must demonstrate that it has faculty resources of appropriate quality and sufficiency to achieve its mission and objectives. The academic unit has an identifiable full-time core faculty responsible for its leadership who:

1. are sufficient in number for their academic and professional responsibilities;

2. number at least three (3) individuals whose academic appointments are to the unit in counselor education; (If one or more of the three (3) academic appointments is not teaching full-time in the academic unit then there must be at least three (3) full time equivalent (FTE) faculty teaching in the academic unit);

3. have earned doctoral degrees in counselor education, preferably from CACREP accredited programs, or doctoral degrees in a closely related field;

4. have relevant preparation and experience in the assigned area of teaching;

5. identify with the counseling profession through memberships and involvement in appropriate professional organizations (i.e., ACA and its divisions, branches, and affiliate organizations) and appropriate certifications (e.g., NCC) and/or licenses (e.g., LPC) pertinent to the profession; and

6. have the authority to determine program curricula within the structure of the institution's policy.

B. The academic unit has clearly defined administrative and curricular leadership that is sufficient for its effective operation. A faculty member may hold more than one of the following positions simultaneously.
   1. A core faculty member is clearly designated as the academic unit leader for counselor education who
      a. is responsible for the coordination of the academic unit,
      b. receives inquiries regarding the overall academic unit,
      c. is assigned at least 50% to the academic unit,
      d. makes recommendations regarding the development of and expenditures from the budget,
      e. has release time from faculty member responsibilities to administer the academic unit, and
      f. provides or delegates year-round leadership to the operation of the program.
   2. One core faculty member is identified as the coordinator for each program for which accreditation is being sought and has
      a. a teaching assignment in the program,
      b. identified responsibilities as coordinator, and
      c. relevant preparation and experience.
   3. A core faculty member is identified as the clinical coordinator for the academic unit and/or program who
      a. is responsible for the coordination of all clinical experiences in each counselor education program for which accreditation is sought,
      b. is the individual to whom inquiries regarding clinical experiences are referred, and
      c. has clearly defined responsibilities as clinical coordinator.
   4. If the counselor education academic unit operates a clinical facility, there must be a facility director who
      a. is responsible for the overall operation of the facility,
      b. has identified responsibilities, and
      c. works closely with the clinical coordinator.

C. The counselor education academic unit may employ adjunct and/or affiliate counselor education faculty who
   1. hold graduate degrees, preferably from CACREP accredited programs;
   2. have relevant preparation and experience in the assigned area of teaching;
   3. identify with the counseling profession through memberships in appropriate professional organizations (i.e., ACA and its divisions, branches, and affiliate organizations) and appropriate certifications (e.g., NCC) and/or licenses (e.g., LPC) pertinent to the profession; and
   4. understand the mission, goals, and curriculum of the program.

D. During the three-year period preceding the date of application for program accreditation, core faculty should have engaged in activities of ACA and/or other professional activities including all of the following:
   1. development/renewal (e.g., attended appropriate professional meetings, conventions, workshops, seminars);
   2. research and scholarly activity; and
   3. service (e.g., program presentations, workshops, consultations, speeches, direct service).

E. Adequate clerical assistance, technical equipment and support, software, and training are available to support faculty activities and the operations of the program and are commensurate with similar graduate programs.

F. Program faculty members are assigned to provide classroom and clinical instructional services only in areas for which they have demonstrated knowledge and skills.

G. The counselor education academic unit has made systematic and long-term efforts to attract and retain faculty from different ethnic, racial, gender, and personal backgrounds representative of the diversity among people in society.
H. Adequate assistance, including technical support and professional development activities, is available for faculty members who are engaged in distance learning.

Section V

ORGANIZATION AND ADMINISTRATION

A. Program descriptions and requirements are published and disseminated to all prospective students.
B. A clear procedure for responding to inquiries of prospective students has been identified and carried out.
C. Prior to or at the beginning of the first term of enrollment in the program, the following should occur for all new students:
    1. a new student orientation is conducted; and
    2. a student handbook is disseminated that includes the institution's and/or program's:
        a. academic appeal policy,
        b. student retention policy explaining procedures for possible student remediation and/or dismissal from the program,
        c. written endorsement policy explaining the procedures for recommendation of students for credentialing and employment,
        d. information about appropriate professional organizations (i.e., ACA, its divisions and/or branches), involvements, and activities potentially appropriate to students in the program, and
        e. mission statement and program objectives.
D. The program has procedures for disseminating current information to all students enrolled in the program, and associated personnel.
E. The recommended ratio of FTE students to FTE faculty is 10:1.
F. The teaching loads of program faculty are consistent with those of the institution's other graduate level units that require intensive supervision as an integral part of professional preparation and incorporate time for:
    1. advising and supervising student research using formulae consistent with established graduate school policies within the institution;
    2. maintaining knowledge and skill as a counselor educator, which ordinarily includes ongoing scholarship and service; and
    3. administrative responsibilities (if applicable).
G. Graduate assistantships for program students are commensurate with graduate assistantships in other clinical training programs in the institution.
H. A written policy has been developed to recruit students to represent a multicultural and diverse society has been developed and is implemented by program faculty.
I. The program admissions criteria, as well as selection and retention procedures, are distributed to prospective students. The criteria and procedures include consideration of
    1. input from regular, adjunct, and affiliate program faculty;
    2. each applicant's potential success in forming effective interpersonal relationships in individual and small-group contexts;
    3. each applicant's aptitude for graduate-level study, including technological competence and computer literacy;
    4. each applicant's career goals and objectives and their relevance to the program; and
    5. each applicant's openness to self-examination and personal and professional self-development.
J. Admission decision recommendations are made by an academic unit's selection committee.
K. Effort is made to secure financial assistance for students in the program, including all of the following:
    1. monitoring to ensure that the program receives a proportionate share of institutional funds allocated for such purposes; and
    2. informing students of available loans, part-time work, graduate assistantships and fellowships, and other sources of financial aid.
L. Students have an assigned faculty advisor at all times during enrollment in the program. Students, with their faculty advisor, develop a planned program of study prior to the completion of twelve (12) semester or eighteen (18) quarter hours of graduate study. The planned program of study identifies the following:
    1. program prerequisite curricular experiences,
    2. core curricular requirements,
    3. specialized curricular experiences,
    4. supervised practicum and internship requirements, and
    5. appropriate elective curricular requirements.

Section VI

EVALUATIONS IN THE PROGRAM

A. Program mission, objectives and student learning outcomes are developed and revised when necessary through self-study on a regular schedule. This evaluation process is based on input from program faculty, current and former students, and personnel in cooperating agencies.

B. The program faculty conducts a developmental, systematic assessment of each student's progress throughout the program, including consideration of the student's academic performance, professional development, and personal development.

C. Faculty establish a comprehensive, integrated plan of program evaluation, indicating how the mission, objectives, and student learning outcomes are met. Program evaluations must be ongoing, with formal evaluation occurring as follows:

1. an annual evaluation that documents how, where, and the extent to which program objectives are addressed in course syllabi;

2. a review by program faculty of programs, curricular offerings, and characteristics of program applicants;

3. at least once every three years, program faculty conduct and document findings of formal follow-up studies of program graduates to assess graduate perceptions and evaluations of major aspects of the program;

4. at least once every three years, program faculty conduct and document findings of formal follow-up studies of clinical site supervisors and program graduate employers to assess their perceptions and evaluations of major aspects of the program; and

5. at least once every three years, program faculty document use of findings from VI. C.1, 2, 3, and 4 above in program modifications.

D. An official report that documents outcomes of the comprehensive program evaluation shall be prepared and distributed on a systematic basis (at least once every three years) to students currently in the program, program faculty, institutional administrators, and personnel in cooperating agencies (e.g., employers, site supervisors).

E. Students have regular and systematic opportunities to formally evaluate faculty and the students' curricular experiences.

F. Provide annual results of student course evaluations to faculty.

G. present written faculty evaluation procedures to program faculty at the beginning of each evaluation period and whenever changes are made in the procedures.

STANDARDS FOR COMMUNITY COUNSELING PROGRAMS

In addition to the common core curricular experiences outlined in Section II.K, the following curricular experiences and demonstrated knowledge and skills are required of all students in the program.

A. FOUNDATIONS OF COMMUNITY COUNSELING

1. historical, philosophical, societal, cultural, economic, and political dimensions of and current trends in the community human service/ mental health movement;

2. roles, functions, preparation standards, credentialing, licensure and professional identity of community counselors;

3. policies, laws, legislation, recognition, reimbursement, right-to-practice, and other issues relevant to community counseling;

4. ethical and legal considerations specifically related to the practice of community counseling (e.g., the *ACA Code of Ethics*); and

5. the role of racial, ethnic, and cultural heritage, nationality, socioeconomic status, family structure, age, gender, sexual orientation, religious and spiritual beliefs, occupation, and physical and mental status, and equity issues in community counseling.

B. CONTEXTUAL DIMENSIONS OF COMMUNITY COUNSELING

1. the roles of community counselors in various practice settings and the relationships between counselors and other professionals in these settings;

2. organizational, fiscal, and legal dimensions of the institutions and settings in which community counselors practice;

3. strategies for community needs assessment to design, implement, and evaluate community counseling interventions, programs, and systems; and

4. general principles of community intervention, consultation, education, and outreach; and characteristics of human services programs and networks (public, private, and volunteer) in local communities.

C. KNOWLEDGE AND SKILL REQUIREMENTS FOR COMMUNITY COUNSELORS

1. typical characteristics of individuals and communities served by a variety of institutions and agencies that offer community counseling services;

2. models, methods, and principles of program development and service delivery for a clientele based on assumptions of human and organizational development, including prevention, implementation of support groups, peer facilitation training, parent education, career/occupational information and counseling, and encouragement of self-help;

3. effective strategies for promoting client understanding of and access to community resources;

3. principles and models of biopsychosocial assessment, case conceptualization, theories of human development and concepts of normalcy and psychopathology leading to diagnoses and appropriate counseling plans;

5. knowledge of the principles of diagnosis and the use of current diagnostic tools, including the current edition of the *Diagnostic and Statistical Manual*;

6. effective strategies for client advocacy in public policy and other matters of equity and accessibility; and

7. application of appropriate individual, couple, family, group, and systems modalities for initiating, maintaining, and terminating counseling, including the use of crisis intervention, and brief, intermediate, and long-term approaches.

D. CLINICAL INSTRUCTION

For the Community Counseling Program, the 600 clock hour internship (Standard III.H) occurs in a community setting, under the clinical supervision of a site supervisor as defined by Section III, Standard C.1 - 2. The requirement includes a minimum of 240 direct service clock hours.

The program must clearly define and measure the outcomes expected of interns, using appropriate professional resources that address Standards A, B, and C (Community Counseling Programs).

STANDARDS FOR SCHOOL COUNSELING PROGRAMS

In addition to the common core curricular experiences outlined in Section II.K, the following curricular experiences and demonstrated knowledge and skills are required of all students in the program.

A. FOUNDATIONS OF SCHOOL COUNSELING

1. history, philosophy, and current trends in school counseling and educational systems;
2. relationship of the school counseling program to the academic and student services program in the school;
3. role, function, and professional identity of the school counselor in relation to the roles of other professional and support personnel in the school;
4. strategies of leadership designed to enhance the learning environment of schools;
5. knowledge of the school setting, environment, and pre-K–12 curriculum;
6. current issues, policies, laws, and legislation relevant to school counseling;

7. the role of racial, ethnic, and cultural heritage, nationality, socioeconomic status, family structure, age, gender, sexual orientation, religious and spiritual beliefs, occupation, physical and mental status, and equity issues in school counseling;
8. knowledge and understanding of community, environmental, and institutional opportunities that enhance, as well as barriers that impede student academic, career, and personal/social success and overall development;
9. knowledge and application of current and emerging technology in education and school counseling to assist students, families, and educators in using resources that promote informed academic, career, and personal/social choices; and
10. ethical and legal considerations related specifically to the practice of school counseling (e.g., the *ACA Code of Ethics* and the *ASCA Ethical Standards for School Counselors*).

B. CONTEXTUAL DIMENSIONS OF SCHOOL COUNSELING

Studies that provide an understanding of the coordination of counseling program components as they relate to the total school community, including all of the following:

1. advocacy for all students and for effective school counseling programs;
2. coordination, collaboration, referral, and team-building efforts with teachers, parents, support personnel, and community resources to promote program objectives and facilitate successful student development and achievement of all students;
3. integration of the school counseling program into the total school curriculum by systematically providing information and skills training to assist pre-K–12 students in maximizing their academic, career, and personal/social development;
4. promotion of the use of counseling and guidance activities and programs by the total school community to enhance a positive school climate;
5. methods of planning for and presenting school counseling-related educational programs to administrators, teachers, parents, and the community;
6. methods of planning, developing, implementing, monitoring, and evaluating comprehensive developmental counseling programs; and
7. knowledge of prevention and crisis intervention strategies.

C. KNOWLEDGE AND SKILL REQUIREMENTS FOR SCHOOL COUNSELORS

1. Program Development, Implementation, and Evaluation
   a. use, management, analysis, and presentation of data from school- based information (e.g., standardized testing, grades, enrollment, attendance, retention, placement), surveys, interviews, focus groups, and needs assessments to improve student outcomes;
   b. design, implementation, monitoring, and evaluation of comprehensive developmental school counseling programs (e.g., the *ASCA National Standards for School Counseling Programs*) including an awareness of various systems that affect students, school, and home;
   c. implementation and evaluation of specific strategies that meet program goals and objectives;
   d. identification of student academic, career, and personal/social competencies and the implementation of processes and activities to assist students in achieving these competencies;
   e. preparation of an action plan and school counseling calendar that reflect appropriate time commitments and priorities in a comprehensive developmental school counseling program;
   f. strategies for seeking and securing alternative funding for program expansion; and
   g. use of technology in the design, implementation, monitoring and evaluation of a comprehensive school counseling program.
2. Counseling and Guidance
   a. individual and small-group counseling approaches that promote school success, through academic, career, and personal/social development for all;
   b. individual, group, and classroom guidance approaches systematically designed to assist all students with academic, career and personal/social development;
   c. approaches to peer facilitation, including peer helper, peer tutor, and peer mediation programs;
   d. issues that may affect the development and functioning of students (e.g., abuse, violence, eating disorders, attention deficit hyperactivity disorder, childhood depression and suicide)

e. developmental approaches to assist all students and parents at points of educational transition (e.g., home to elementary school, elementary to middle to high school, high school to postsecondary education and career options);
f. constructive partnerships with parents, guardians, families, and communities in order to promote each student's academic, career, and personal/social success;
g. systems theories and relationships among and between community systems, family systems, and school systems, and how they interact to influence the students and affect each system; and
h. approaches to recognizing and assisting children and adolescents who may use alcohol or other drugs or who may reside in a home where substance abuse occurs.

3. Consultation
   a. strategies to promote, develop, and enhance effective teamwork within the school and larger community;
   b. theories, models, and processes of consultation and change with teachers, administrators, other school personnel, parents, community groups, agencies, and students as appropriate;
   c. strategies and methods of working with parents, guardians, families, and communities to empower them to act on behalf of their children; and
   d. knowledge and skills in conducting programs that are designed to enhance students' academic, social, emotional, career, and other developmental needs.

D. CLINICAL INSTRUCTION

For the School Counseling Program, the 600 clock hour internship (Standard III.H) occurs in a school counseling setting, under the supervision of a site supervisor as defined by Section III, Standard C.1-2. The requirement includes a minimum of 240 direct service clock hours.

The program must clearly define and measure the outcomes expected of interns, using appropriate professional resources that address Standards A, B, and C (School Counseling Programs).

APPENDIX H

HUMAN RESEARCH COMMITTEE ACCEPTANCE LETTER

Colorado State University

Office of Regulatory Compliance
Office of Vice President for Research
and Information Technology
Fort Collins, CO 80523-2011
(970) 491-1553
FAX: (970) 491-2293

MEMORANDUM

TO: Gene Gloeckner, School of Education, 1588

FROM: Janell A. Meldrem, Regulatory Administrator for the Human Research Committee

SUBJECT: **PROJECT APPROVAL**
Title: Attitudes of Counseling Students' Use of Web-based Instruction (WebCT) for Online and Supplemental Instruction in a Master Degree Program for Counselors
Protocol No.: 04-015H
Funding Agency: N/A

DATE: February 11, 2004

I am pleased to inform you that the above-referenced project was approved by the Human Research Committee on February 9, 2004 for the period February 9, 2004 to January 15, 2005 with the condition that the attached consent form is signed by the subjects and each subject is given a copy of the form. It is the investigator's responsibility to obtain this consent form from all subjects. *NO changes may be made to this document without first obtaining the approval of the Committee.* **Approval is for 200 participants.**

A status report of this project will be required within a 12-month period from the date of approval. Renewal is the Principal Investigator's responsibility, but as a courtesy, you will be sent a reminder approximately two months before the protocol expires. The Principal Investigator will report on the numbers of subjects who have participated this year and project-to-date, about problems encountered, and provide a verifying copy of the consent form or cover letter used. The necessary form (H-101) is available from the Regulatory Compliance web page (see below). Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

It is the responsibility of the investigator to immediately inform the Committee of any serious complications, unexpected risks, or injuries resulting from this research. It is also the investigator's responsibility to notify the Committee of any changes in experimental design, participant population, or consent procedures or documents. This can be done with a memo which completely describes the changes and their consequences (new consent form or cover letter, or altered survey instrument, for example). Students serving as Co-Principal Investigators may not alter projects without first obtaining PI approval. The PI is ultimately responsible for the conduct of the project. Upon completion of the project, an H-101 should be submitted as a close-out report.

This approval is issued under Colorado State University's OHRP Federal Wide Assurance 00000647 issued July 1, 2001. If approval did not accompany a proposal when it was submitted to a sponsor, it is the researcher's responsibility to provide the sponsor with the approval notice.

Please direct any questions about the Committee's action on this project to me for routing to the Committee.

Attachment

xc: Mark Manzanares w/attachment